India's Temporal Imaginaries of Climate Change: 1988-2018

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
Social, Political, Ethical, and Cultural Thought

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February 7, 2019
Blacksburg, Virginia

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ABSTRACT

The advent of climate change promises extreme disruptions to existing concepts of political time, namely the distinction between the modes of time adopted by modern nation-states, natural time, and the everyday life of human beings. Yet the nation-state remains the primary actor through which climate politics is shaped. India is one the most prominent actors in the UN Framework Convention on Climate Change (UNFCCC) and also likely to be one of the most climate-affected societies moving forward. Over the 30-year history of India's engagement at the UNFCCC, there has been a shift from constructing a secular, past-oriented imaginary to a sacred, future-oriented one. The state has fostered these temporal imaginaries through three discursive registers: international politics, climate science, and conservative Hindu ideology. These imaginaries act as a heuristic tool with which to analyze the changing dynamics of political temporality in an era of rapid and extreme climate change.

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GENERAL AUDIENCE ABSTRACT

Climate change challenges fundamental notion of political time, the temporal relationship that embeds actors and processes. Yet this topic is underanalyzed in academic literature, especially when it comes to non-Western states. India has been one of the most prominent actors at the United Nations climate negotiations and also likely to be heavily affected by extreme climate shifts. Over the 30-year history of the UN Framework Convention on Climate Change (UNFCCC), the Indian government has framed the temporality of climate change in two ways. First, from 1988-2004, it constructed and followed a secular, past-oriented imaginary of climate change. Beginning in 2005, and accelerating with the election of Prime Minister Modi in 2014, the government has begun to construct and follow a sacred, future-oriented imaginary. In this way, the State has moved from rhetorically framing climate change as a significant problem to an opportunity that can be met if India and other societies follow conservative Hindu precepts.

<u>Acknowledgements</u>

My deep gratitude to Laura Zanotti, Rohan Kalyan, Tim Luke, and Peter Schmitthenner.

To my mother, who let me imagine without limits.

To Joey, with whom I am excited to explore what comes next.

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Commonly Used Acronyms

CSE – Centre for Science and the Environment

COP – Conference of the Parties

G77 – Group of 77

GHGs – Greenhouse gases

INC – Intergovernmental Negotiating COmmittee

INCCA – Indian Network for Climate Change Assessment

IPCC – Intergovernmental Panel on Climate Change

MEF – Ministry of Environment and Forests, India

UNFCCC – United Nations Framework Convention on Climate Change

UNGA – United Nations General Assembly

WRI – World Resources Institute

Ch. 1 – Imagining the Political Times of Anthropogenic Climate Change

> One is never as provincial as when one claims to have a "global" view. (Latour 2017, 135).

1.Introduction

This dissertation traces the national Indian government's articulations of the temporality of climate change from the formative days of international climate governance through to the present. My primary aim is to outline and critique the state's representations of climate change at the UN Framework Convention on Climate Change (UNFCCC), using temporality as my analytical lens. A critical analysis of documents produced by the national government to articulate its political imaginary of climate change to the UNFCCC demonstrates how India's temporal representations of climate change both embed and are embedded within the state's broader post-colonial imaginary of political time.

I will demonstrate that the changes in the State's representations of the past, present, and future of climate change came as a result of both political and material changes. Over the thirty year period between 1988-2018, India's representation of climate change shifted from a generally past-oriented imaginary to a future-oriented one. And each representation, or imaginary, in turn, led India to make a particular intervention at the UNFCCC. The State's initial imaginary traced climate change's origins to the intertwined histories of western colonialism and industrialization. Climate change, and environmental degradation more broadly, was the latest manifestation of profoundly unequal political and economic relations between the previously colonized societies and the previous colonizers. As a result of this imaginary, India long argued that developed states take on *historical responsibility* for climate change. The State's future-oriented imaginary today, in contrast, is oriented towards averting worst-case climate futures,

rather than remedy an unjust past and present.   The domestic production of climate models, models that predict significant future climate shifts over the Indian subcontinent, overcame long-standing suspicion of scientific models, produced in the West, that represented climate change as a "global" issue for humanity (INCCA 2010, Swyngedouw 2010).   Such anticipatory imaginaries of the future emphasize what kind of "threat" climate change *could-be* and can guide the State's policy-making accordingly. This future-oriented imaginary led India to abandon the principle of historical responsibility and commit to self-imposed emissions limits. The latest version of this imaginary, under Prime Minister Narendra Modi's tenure since 2014, constructs both the past and future of India positively, and treats secular and sacred worldviews as co-existing with each other in the present.

The subsequent chapters will analyze the national government's successive engagements with the three discursive registers (international environmental politics, climate science, and Hindu fundamentalism) through which it articulated political temporalities of climate change over the last thirty years. Each of these engagements highlights a different but related political articulation of the temporality of climate change. Together, the Indian state's shifts in temporal imaginaries tell a story of post-colonial ambivalence towards narratives that seek to synchronize a wide range of temporalities into one, coherent sense of political time.

This dissertation conducts a critical discourse analysis of documents produced by the Indian national government to communicate its climate politics to other state actors, primarily official communications to the UNFCCC, throughout its history as an actor in the international environmental governance regime. My analysis seeks to address three questions: In what ways has India imagined the political time of climate change?   How have the state's imaginaries changed over the course of its participation in the international climate regime (1988-2018)?

How are these imaginaries articulated in three distinct but related bodies of discourses (international environmental politics, climate science, and religion)?

India's engagement in the international climate governance regime is divided between two periods. In the first, from 1988 to 2005, the Indian government justified its position towards differentiating present-day responsibility for mitigation and adaptation efforts based on the colonial origins of climate change and environmental degradation more widely. In the second period, from 2005 to 2018, India shifted to jointly relying on scientific models of climate futures and a right-wing Hindu treatment of climate change as the *foundations* upon which to justify the State's acceptance of limited responsibility for mitigation and adaptation efforts. These future-oriented imaginaries articulate India as a natural leader at the UNFCCC because of Indian society's supposed historical and religious traditions of ecological sustainability.

The state's climate temporal imaginaries today are constructed through two, seemingly contradictory bodies of knowledge. The first is the growing capability of Indian climate scientists to model climate dynamics of the South Asia region, both as they exist now and in likely futures. The second body of knowledge is religious, namely Prime Minister Narendra Modi's articulation of a glorious history of Hinduism as a resource for tackling climate change in the present and future. Climate futures are marked on one hand by an increasing sense of climate change as a larger threat as identified by the scientific literature. On the other hand, PM Modi builds on this scientific knowledge to animate religious fundamentalist imaginaries that represent Hinduism as an important resource for India's and the wider world's averting the worst-case climate futures.

In other words, from 1988 to 2004, the Government of India exclusively articulated negative imaginaries of the past in order to justify its agenda in contemporary international

environmental negotiations between 1988-2004. In contrast, the years following saw the

government switch to constructing climate futures, along with a positive mythologized account

of Hinduism's history, upon which it justifies its political and policy decisions. In PM Modi's

rhetoric, these projected futures offer India the opportunity to be a *vishwaguru*, a world leader

and teacher (Hall 2016). Despite their orientations alternately to the past and future, both periods

exhibited ambivalence by the State towards treating the west as a reference point for constituting

political time (Chakrabarty 2000). If western political time is not treated as universally

applicable, it is vital to analyze the multiplicity of ways non-western societies imagine political

time, in this case, India.

This dissertation treats temporal imaginaries as the delineation between remembered

pasts and anticipated futures in order to construct the political "now." And just as the exercise of

state sovereignty depends on the articulation of a common spatial scale, i.e. the nation-state's

territory, so does it depend on the articulation of a common, national political time (Anderson

1983, Walker 1993). But the material complexity of climate change, the rapid and extensive

changes to existing patterns in the atmosphere and oceans, limits the nation-state's ability to

cleanly delineate between political time and natural time. For the first time when imagining the

present and the future, India, like all other nation-states, must take into account the impact of

human and non-human forces.

Analyzing how States construct temporal imaginaries is critical for coming to terms with

how to theorize the very different ways state sovereignty will be affected by anthropogenic

climate change. As Miller writes of the international climate governance regime embodied in the

UNFCCC, "[...] their collective consequences for world governance in the next 100 years may

ultimately rival changes made by 200 years of liberal individualism, and the spread of national

expressions of political identity and the Enlightenment ideal of a rational politics geared to social needs" (Miller 2004, 46).

In other words, tracing India's participation at the UNFCCC through a temporally grounded intertextual analysis highlights how climate change affects the practice of state sovereignty in two ways. First, the epistemological disorientation climate change invokes challenges the State's ability to maintain a clear distinction between the temporality within the state's borders (e.g. the history and future of India) and the time outside such borders (e.g. India within world political time, history, future, etc.). Second, tracing India's political engagement with climate change illuminates how interactions between the imaginaries of state sovereignty and the temporalities of climate change produces many different timings of climate politics, which challenge unitary or global temporal narratives. Analyzing one state's political temporalities of climate change from a diachronic or heterotemporal viewpoint illuminates the range of possible futures that states face.

2. The Disorienting Intersections of Climate Change and Political Time

The terms "climate change" and "global warming" alternatively refer to a range of material and climatic shifts caused by massive amounts of greenhouse gases emitted since the mid-19th c.[1] These effects include a rapid and dangerous warming of the atmosphere and the acidification of the oceans, a sixth mass extinction event, significant sea level rises, and the feedback loops among them (Yusoff 2013, Lewis & Maslin 2015). The simultaneous manifestation of these phenomena together so rapidly marks two inter-connected and profoundly disorienting temporal ruptures. The first rupture is the rapid break from general ecological conditions existing since

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[1] I use "climate change" throughout this project since it is evokes a fuller picture of these phenomena than "global warming."

the advent of sedentary agricultural societies around 10-12,000 years ago. Climate change's

straddling of three registers of time (experiential, historical, and climatological) challenges

modernist assumptions that the "now" of world politics can be represented by a single, global

narrative (Markley 2012, 43). Climate change also blurs the distinction between nature (deep

time) and human (political time), and so highlights the extent to which societies respond

differently to material changes in their environment (Latour 1993).

Climate change also blurs traditional notions regarding how political time is constituted,

especially by institutions like the nation-state. As a phenomenon "massively distributed in time

and space relative to humans," climate change challenges the nation-state's ability to conceive of

and order political communities (Morton 2013, 2).   In terms of space, climate change is a

phenomenon simultaneously and materially manifested at planetary and local scales.   This

simultaneity challenges assumptions regarding the nation-state's effectiveness in demarcating

what politics counts as "domestic" and what as "international." At the same time, with

developing states expected to receive the brunt of climate change effects, climate change in

many ways also affirms existing inequalities based on the spatial distribution of populations

(Chaturvedi & Doyle 2015). Impoverished communities are heavily impacted by threats to food

and water access. (World Bank 2013). Additionally, the livelihoods upon which these

communities rely, like agriculture and fishing, are largely based on the conditions of the local

environment. Finally, developing states themselves have limited financial, technological, and

infrastructural capacities to effectively adapt to a new climatic "normal" (Werrell & Femia

2017).

The case of climate change's effects on India, as the most populous postcolonial state in

the world, highlights these two climate-induced temporal ruptures. The second most populous

country has an estimated 1.3 billion inhabitants. Calculations for national poverty rates vary, with the World Bank estimating a total just shy of 180 million people living on less than $2/day (2014). Seventy percent of rural households rely on agriculture as their livelihood and nearly 200 million people are undernourished (FAO 2016). Its coastal cities are highly vulnerable to sea rise levels; an estimated 50% increase in its population over the next 25 years will severely strain existing access to food, water, and other services. As I will discuss in ch. 3, floods and droughts are set to intensify because of more intense monsoons, hotter, drier seasons in between, and the melting of the Himalayan ice packs, all likely leading to downstream flooding and loss of fresh water access (Senapati et al. 2013). Rising sea levels will also dramatically impact its neighbor, Bangladesh, leading to fears of hundreds of millions of refugees crossing the border in future decades (World Bank 2014, Hindustan Times 2017). In other words, India, like most other developing states, faces a future where climate change significantly challenges the state's legitimacy in terms of keeping order, of exercising its sovereignty in a consistent way, in the face of climate shifts likely to deeply impact Indians' livelihoods (Ayoob 1995).Together, the future threats of climate change to India, and the state's imaginary of them, highlight both the rupture of distinguishing cleanly between political and natural time and between national time and international time.

In the face of this temporal disorientation, India has struggled with articulating a political temporality of climate change and climate politics. The primary aspect of the State's struggle has concerned how much to adopt or reject temporalities constructed by western states and international NGOs. These temporalities, as will be discussed further, often animate globalized treatments of climate change as a phenomenon that affects all of humanity, a synchronized spatial and temporal framework. As a post-colonial state, India vacillates between mimicking or

rejecting western temporal orientations that once served to enable western imperial projects. India vacillating between acceptance and rejection of Western political time represents its struggle, after Independence, with treating the west as the epistemological reference point for determining political reality (Hutchings 2008, 74). The Government's struggle to conceptualize the political temporalities of climate change over thirty years is a key example of a post-colonial state attempting to exert sovereign control over political imaginaries of time in order to bind certain communities together and legitimate its position as head of the polity known as "India" (Anderson 1983).

India's history at the UNFCCC illuminates the extent to which the international politics of climate change is marked by the pasts of colonialism, out of which the existing international order and power relations originated. One of the most enduring questions of international climate politics has been determining on what basis to attribute responsibilities and commitments for mitigation efforts, namely the reduction of greenhouse gas emissions. It is over this question that state articulations of political time most animate a distinction between the temporalities of South and North states, developing and developed. South states (led by India, China, and Brazil) generally maintain that North states, owing to their early industrializations, are responsible for the vast majority of GHG emissions in the past 150 years that have contributed to a rise in average global temperature. As such, they argue North states should be responsible for funding mitigation efforts both for themselves as well as for adaptation efforts for South states (Agarwal & Narain 1991, Rajan 1997, Dubash 2012). By contrast, North states have generally denied the legitimacy of historical responsibility in favor of distributing responsibility to all societies and states based on *present-day* emissions (Swyngedouw 2010, Swyngedouw 2014, Chaturvedi & Doyle 2016). North states (led by the United States and the European Union) have argued that

linking legally binding commitments to current GHG emissions for "advanced developing economies" like China and India are required to stabilize atmospheric GHG concentrations since these states have rapidly increased their greenhouse gas emissions over the past 30 years.

From a post-colonial perspective, traditional International Relations frameworks like rationalism, constructivism, and historical materialism cannot recognize the place of histories of western colonialism in constituting the temporal outlines of contemporary world politics (Ling 2014, Muppidi 2004). Rationalist frameworks like neoliberal IR treat the state as an actor bound by cost-benefit analyses of interests and values; constructivist frameworks like Wendt's acknowledge the construction of norms and values based on the nation-state's interests; and Marxist IR treats all international politics as a matter of capitalism and economic power. Despite their seeming differences, Muppidi argues that all three rely on a static conception of the subjectivity of the nation-state that is essentially timeless (Muppidi 2004, 20-28). In response, post-structural and post-colonial IR temporalize seemingly given norms and institutions (Inayatullah & Blaney 2004, Hutchings 2008, Ling 2008). In doing so, both schools of thoughts seek to imagine world politics as a collection of multiple worlds, imaginaries, and temporalities.

A similar issue is at play in IR treatments of climate politics, and especially concerning the politics of post-colonial states. While much has been written about the South-North divide over differentiating responsibilities, there is little explicit foregrounding of the temporal foundations of the underlying argument (Rajan 1997, Dubash 2012, Sengupta 2012, Saryal 2018). For example, Isaksen & Stokke treat India's climate politics solely from a presentist view of state interests; little interest is given to deeper issues that transcends the country's daily international and national politics (2014). The presentism in most IR treatments of climate politics leads to important questions that guide this dissertation's examination of India's

temporal imaginaries of climate change. Which articulations of time are adopted by the country to represent and give meaning to climate change? Even more broadly, what is the relationship between how climate change is timed with states' political positions? How exactly do conceptions of time ground conceptions of the relationship between domestic and world politics? How does India treat the past and future as epistemological resources for understanding the "now" of world politics? Answering these questions requires a critical, interdisciplinary approach that analyzes how temporal orders are constructed and to what effect (Muppidi 2004, 21).

Such a critical approach must recognize political *imagination* at the heart of tracing the dynamics between various temporal frameworks and epistemologies of climate change, which resists a single narrative or vision. The usefulness of imagination as an analytical concept comes into view with the distinction between *time* and *temporality*. While time refers to the indefinite, continuous progress of events from past to future, temporality refers to how time "manifests itself in human existence," as a political or social narrative (Hoy 2012, xiii). In recent years, scholarship in world politics has increasingly considered the roles that common assumptions about time play in our political discourses and practices (Inayatullah & Blaney 2004, Hutchings 2008, Hobson 2012, Hom et al. 2016). The significant body of work on globalization across IR and other disciplines focuses generally on the contours of time. Is political and social time itself speeding up? Does time as such actually exist in the face of near-simultaneous financial and information flows? Does time follow a particular shape or direction? (Harvey 1990, Agnew 1994, Appadurai 1996, Held and McGrew 2007). A related and more recent body of scholarship has looked at the temporal dimension of world politics, namely how societies construct and contest inter-subjective experiences of time (Holmqvist & Lundborg 2016).

Before moving into a wider exploration of this literature, I will first draw upon Sheldon Wolin's, Dipesh Chakrabarty's, and Himadeep Muppidi's conceptualizations of "imagination" in order to highlight the relevance of political temporalities in studying the disorientation at the heart of post-colonial climate politics. I treat political imaginaries as tools used by polities in order to constitute the large number of conflictual temporalities into a single, national one. Engaging with the notion of a temporal imaginary as a methodological tool, I argue, is a useful resource for IR scholars interested in examining the ways in which nation-states' imaginaries of time, its orientations to the past and future, are impacted by anthropogenic climate change.

3. Imagining the Time(s) of World Politics

In his seminal *Politics and Vision*, Sheldon Wolin argues for the vital importance of theorizing the "political," the name given to the processes of understanding and giving meaning to issues and practices relevant to any given community (1960[2004] 4-8, Kant 1796). Wolin's concept of "imagination" is based on a long conversation throughout the western canon that treats it as a matter of vision, of viewing the world (Wolin ibid, Chakrabarty 2000, 173-176). Chakrabarty cites the parameters of modernist discourses on "imagination" as the psychological perception of a subject's surroundings (2000, 175). It is based on a distinction between a perceiving subject and an observed, external object.[2] There are two ways in which the subject can try to "envision" the world. The first is to attempt an objective and complete vision of any given context in order to communicate a representational likeness of its political reality.

But given the difficulty of and hubris in claiming to acknowledge all relevant variables, Wolin also emphasizes the usefulness of a different sense of vision, that of an "imaginative, not

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[2] Chakrabarty contrasts this dominant notion of imagination in the West with the Bengali concepts *darshan* or *divyadrishti*, literally, "divine sight" that is not a subjective, mental state but a practice (2000, 175-176). I will return to this distinction between secular and sacred concepts of imagination in ch. 6 as a useful tension with which to develop ways of framing new climate realities.

descriptive, element" (Wolin 18). The envisioning-as-imagining political reality allows the

theorist to expand her viewpoint beyond her or her community's immediate surroundings and

experiences, an expansion beyond mere description of a particular lived reality. Vision-as-

imagination is a more encompassing form of theorization than vision-as-description for coming

to to terms with political "reality" in two ways. First, since it is impossible for any individual or

community to "see" the totality of politics, a political imagination presents what Wolin calls a

"corrected fullness" of one's immediate geographical surroundings.

> The impossibility of direct observation compels the theorists to epitomize a society by
> abstracting certain phenomena and providing interconnections where none can be seen.
> Imagination is the theorist's means for understanding a world he can never 'know' in an
> intimate way (19).

Since any scale of community relies on a sense of inhabiting some form of shared space,

imagination allows the subject to transcend his or her spatiality, to envision the processes and

dynamics involved. In the case of climate change, imagination allows one to explore the

entanglements of transnational actors and processes that may otherwise be obscured by spatial

boundaries between territories.

For Wolin, imagination also allows the subject agency in terms of time, to transcend her

present, her "now," and so to "know" the past and the future, i.e. to "transcend history" (ibid.

19). The theorist can imagine beyond her immediate *now*, going into a past that can act as guide,

or into a future conceived of as something to aspire to or avoid. Temporality can refer to the

narrative an individual develops in response to her linear, lived life of cause-and-effect or the

narratives a community develops in response to its own memories and hoped or feared futures.

Imagination allows the individual and community alike to envision alternative histories of

coming into being or expected futures of progress or decline. In other words, the stories we tell

about remembered pasts and potential futures directly impact how we imagine our place in time as well as space. But temporal imaginations also allow for a kind of intellectual experimentation, where either an existing or idealized present order is projected into the future in order to analyze potential alternatives. Or, an imagined past order is projected into the present and in order to offer lost or hidden insights into contemporary conditions.

Thus, imaginaries of political time enable an actor to envision beyond what-*was*, what-*is*, and what-*will-be*, closed and static approaches ill-suited to a dynamic political reality. Instead, political and temporal imaginations open the way toward more flexible and pluralistic understandings of *what-could-have-been*, *what-might-be*, and *what-could-be* political reality, especially now in the era of rapid and intensifying climate change. Imagination can be used for the purpose of theorizing phenomena in an explicitly political way. Imagination allows the theorist, individual, or community to "see" the spatiotemporality of politics that can never be directly observed or experienced.

Besides the theorist's imaginary, Muppidi brings our attention to the importance of the concept of socially constructed imaginaries, frameworks with which "the complex but mutually constitutive relationship that exists between specific social claims and the distinctive social identities and inside/outside relations that they generate" (2004, 25). In the case of political time, a social imaginary acts to organize, institutionalize, and operationalize the multiple interpretations of time articulated by various actors (ibid 26).

In terms of this project, I generally treat the political imaginary as a heuristic tool for illuminating the Indian state's vision of climate change and the State itself within a world beset by severe climatic shifts. Much of the IR literature concerned with nation-state responses to climate change frame them as narrow, presentist actions that rely on rhetoric and interests as

standard to nation-states in the modern era. For example, India's history at the UNFCCC

negotiations are alternately described solely in terms of interstate relationships (Kandlikar &

Sagar 1997, Dubash 2013) and narrowly defined political and economic interests that can only

be dated back perhaps a decade or two (Isaksen & Stokke 2013, Joshi 2013). The mistake here is

in treating climate change like a "normal" political crisis, one explainable according to a

relatively fast cause-and-effect relationship between a single or group of state actors acting upon

an inert Earth. However, as I will demonstrate below, the multiple temporalities brought into

play by climate change means that States also rely on deeper, self-reflexive visions of their place

within the international system. For the purposes of this project, using the "imaginary" as my

analytical focus means I can take into account a much wider timeframe. An imaginary is not

limited to these concerns but actually encompasses them, alongside a wide range of other

considerations, including interests and memories that extend beyond the lifetime of the nation-

state. In India's case, for example, I will show how different governments emphasized India's

ancient awareness of the human-nature relationship.

Despite their distinctions between individually and socially constructed imaginaries,

Wolin and Muppidi agree that the imaginary sets the stage for discerning political reality or

adopting abstract thinking (Muppidi 2004 26). Adopting this overall framework of political

imagination in my analysis of documents produced by the Indian government to express its

positions, I trace the changes in the Indian imaginary of political time, and how the state deploys

these imaginaries in order to obtain political effect at the UNFCCC as well as secure its

sovereign identity. In India's case, the government has used imaginaries of its history as a

colonized society, as well as its potential futures as a victim of climate shifts, or as a guide to the

world to live a more sustainable relationship with the world, in order to render a fuller political

representation of climate change. But to analyze India's temporal imaginaries requires

acknowledging alternative political temporalities from those that treat the west as the ultimate

reference point. In contrast to the inability of rationalist, Wendtian constuctivist, and historical

materialist IR frameworks to recognize the existence and legitimacy of non-western, non-state

temporalities, I adopt a critical constructivist approach that recognizes world political time as

being constituted by many, rather than a singular, spatiotemporal order (Muppidi 2004, 21;

Hutchings 2008).

The next section lays the groundwork for analysis of India's temporal imaginaries by

exploring two important dimensions of theorizing State temporalities. The first dimension

concerns the relationship of the past and future to constituting the present. The second

dimension involves distinguishing between singular and plural threads of world political

temporality. I begin by showing how the distinction between *chronos* and *kairos* is a useful

analytical tool with which to explore imaginaries of political time.

3.1 Constituting the Political Present Through Past and Future

Hutchings argues that despite the recent, explicit interest in time from IR theorists, questions of

temporality have always implicitly been at the center of the discipline's attempts to represent the

world (2008, 14-29). What is the tempo of world politics? What is the reliance on the past and

future as resources for constituting the present? What is the shape and direction, if any, of human

time? How should cause and effect be linked and attributed? Together, these questions set the

parameters for Hutchings's exploration of western treatments of political time. Discourses on

political time in the western canon can be traced back to the ancient Greek distinction between

chronos and *kairos* (Hutchings 2008, 4-9). Despite their complex conceptual history, the two

terms can be abstractly reduced to a few basic attributes. *Chronos* refers to the mundane,

undistinguished time of the everyday, the uninterrupted medium within which the universe

exists. Chronos is usually, but not always, associated with human agency, the time that embeds

and is embedded in human existence. In modernity, *chronos* "rests on Newtonian assumptions

[…] in which time is linear, and an infinite succession" (Hutchings 2008, 5). By contrast, *kairos*

indicates "the transformational time of action, in which the certainty of death and decay is

challenged" (5). It is usually, but not always, associated with non-human, usually divine,

agency. It is at the intersection of *chronotic* and *kairotic* time that what is characterized as

"world political time" comes into being. Their "intersections" are most relevant here, since it is

how either singular or plural concepts of the past, present, and future can interrupt, divert, shift,

run alongside, and even stop each other.

IR scholarship generally treats the past and the future as distinct periods which can be

observed by the theorist or subject, at a distance, from one's vantage point in the present. In fact,

the early formation of the nation-state was partially predicated on its ability to "periodize"

between eras, to distinguish between the past as medieval,pre-modern, "untimely", and the

present as modern or "timely"(Davis 2012). Based on this conceptualization of political time, IR

treats the modern state's ability to *define* the present as an integral expression of sovereignty that

involves questioning imaginaries of the past and future used to co-constitute the present.

Engaging with the past has been a central exercise in IR since its early disciplinary days.

Theorists including E.H. Carr, Hans Morgenthau, and Martin Wight all treated the past as a

source of knowledge for setting the theoretical parameters of *contemporary* politics (Morgenthau

1948, Carr 1961,Wight 1966). Wight in particular argued that mining the past for guidance to

the present was the primary activity of those interested in the analysis of international politics

(1966). Mackay & Larouche argue that the tendency to treat the past as knowable guide to the

present is prevalent across IR. "Canonical views of world politics, including realism, liberalism, Marxism and others, once explicitly addressed the problem of history, articulating or relying upon arguments about history's underlying intelligibility and often placing those arguments at the centers of their respective claims about politics" (2017, 204). However, as these metatheories within IR have solidified into standardized templates for framing world politics, they have increasingly left their engagements with the past as an implicit and largely unspoken arrangement. Actors and systems as they exist now are treated as timeless: little thought is given to their respective historical developments nor to how they could change drastically in the future. In other words, although the scholarship originating within the mainstream IR schools (realism, liberalism, and to some extent constructivism) never stopped engaging with the past, the scholarship did stop explicitly and critically referencing the past (Lawson 2010).

There are several axes along which IR scholarship generally treats the past as a resource for understanding contemporary world politics. The first axis is whether change through time is possible. Realist and neo-realist IR scholarship are unique for the timeless and static nature of their frameworks, where states are embedded within an unchanging anarchic international system; change of any form may occur but only within the borders of the state (Behnke 2008). All other schools of IR acknowledge that change happens through time, though there is a continuum of generality, the extent to which past patterns can be applied to the present (Hobson & Lawson, 2008). So while neo-realism embraces an essentially timeless worldview, post-structural and post-modern forms of analysis, namely Foucauldian genealogy and Derridean deconstruction at the end of the spectrum, challenge most attempts to generalize hegemonic strands across time and space. Between the two camps lies the majority of realist, liberal, and constructivist frameworks. Similar to orthodox historiographical methods, these IR schools

largely treat the past as a somewhat reliable resource upon which to understand the present. However, there is little sense among them that imaginaries of the past can seriously disrupt the flow of time in the present, to act as a *kairotic* force on the *chronotic* time of the present.

In contrast, scholarship analyzing IR's conceptions of the future and its role in constituting the present treat the past as indeed having the capacity to disrupt and change the flow of the political *present*.   Massumi draws an important distinction between the temporalities that elicit a *preventive* or a *preemptive* politics (2007). The former is what can be considered the more traditional of the two political responses to questions of the future. A preventive politics,

> assumes an ability to assess threats empirically and identify their causes […] Prevention operates in an objectively knowable world in which uncertainty is a function of a lack of information, and in which events run a predictable, linear course from cause to effect" (ibid).

In other words, a preventive politics is grounded in bodies of knowledge that predict, with some measure of self-certainty, potential futures of threat and opportunity. Massumi argues, however, that in response to the proliferation of crises like terrorism and climate change, states are increasingly turning to a preemptive politics. In this way, states acknowledge that the future is generally unknowable, yet still build identities and threats upon which they can commit their efforts, what Massumi refers to as a "future cause" (ibid).

Stockdale's articulation of "anticipatory governance" expands the analysis of the tension between these two fundamentally different concepts of treating the future as either knowable or not (2015). While politics has always involved attempts to shape the future, climate change inhabits very different timescales from those traditionally addressed by political decision-making. In the face of transnational risks that states and institutions try to prepare for, states increasingly turn to explicitly renders potential *futures* as knowable objects in order to justify

present-day actions. The advent of a society in which imaginaries of future risk are the primary

bases upon which present politics is thought speaks to the

> erosion of our ability to control the unfolding of the future to an extent that affords us an
> adequate degree of ontological certainty in the present, and exemplified by such
> inherently global problems such as climate change, financial crises, and transnational
> terrorism - suggests that time in general, and the irruptive contingency of the future in
> particular, have become discursively framed as pressing problems that must be actively
> addressed through political channels" (quoted from Stockdale 2015, 3; Beck 1992).

In terms of climate change specifically, Stockdale's articulation of anticipatory politics resonates

with the precautionary principle, a key approach to linking risk assessment to action that lies at

the foundation of the UNFCCC and other international environmental frameworks: "where there

are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a

reason for postponing cost-effective measures to prevent environmental degradation" (UNFCCC

1992). The visions produced by the Intergovernmental Panel on Climate Change (IPCC) of a

warmer world have led the UNFCCC to prescribe that average global heating should not exceed

2° C, and ideally should be no more than 1.5ºC (IPCC 2014, 2018; UNFCCC 2009, 2015). Even

the huge amount of scientific and socio-political data on climate change gathered in recent years

can, owing to the immense complexity of the phenomena, offer little certainty. The paradox is

that scientists and policymakers for the first time know to some extent the limits to their

knowledge: in the case of climate change, known unknowns are often the speed with which

changes like glacier melting and temperature rise will happen. There is also the increasing

likelihood of unknown and rapid climate shifts that are not understood and inherently

unpredictable, like the effects of quick shifts in ocean circulation flows and jet stream patterns.

Ensuring the worst case future scenarios of a 3º or 4º C rise by 2100 are not manifested

requires rapid changes to existing economic, ecological, and political practices of nation-states in

the present (IPCC 2014). In response, anticipatory governance rationalities that seek to take action today in order to avert these massive, but highly contingent futures represent a rupture between "empirically based knowledge and an actionable decision" (ibid 35). This in turn means that the legitimacy of the decision rests not on epistemic certainty, but on the decider's "accepted construction of the future" (ibid 36). Thus, states increasingly govern according to the prevention of "anticipated "futures, futures imagined as catastrophic but with significant epistemic uncertainty (Stockdale 2015, 34; Ewald 2002, 283-84). An anticipatory politics is marked by agents who are motivated to make decisions in the present in the absence of thorough knowledge, and so construct a potential future as an object to forestall (Stockdale 2015, 34).

Therefore, IR theory generally treats the relationship between imaginaries of the past, present and future in two ways. First, imaginaries of the past and future are treated alternatively as sources of knowledge, identity, and risk that shape what is imagined as the "now" of world politics. Successfully analyzing the relationship between them also involves treating time critically, specifically inquiring how the interactions between imaginaries of the past and future can act as *kairos*, disrupting the flow of mundane political time in the "now."

3.2 Unitary and Plural Conceptions of Political Temporality

Ancient and early modernist concepts of the relationship between *chronos* and *kairos* were highly deterministic, with human time driven respectively by Christian notions of eschatology or a sense of "progress" in gaining knowledge of and mastery over nature (Hutchings 2008, 70-74). Hutchings argues that Hannah Arendt's and Walter Benjamin's late modernist critiques focused on the human capacity to initiate novel eras through kairotic interventions embodied in the "political" or the Messiah. Deconstructivist critiques by Jacques Derrida and Giles Deleuze, in

contrast, focused on how *kairotic* time, embodied in the intersections of plural times that constitute the present, is imminent with, rather than apart from, *chronotic* time.

Despite the usefulness of these critiques in acknowledging the complexity of anthropocentric, political time, Hutchings argues that they all "treat the present of western modernity as the reference point for drawing general conclusions about the meaning of the present" (2008, 74). Even Derrida and Deleuze, despite acknowledging the "specters" and Other times that inhabit the present, refer nearly exclusively to the histories of the west. From their lead, however, post-structural and post-colonial historiography and IR challenge the legitimacy of unitary concepts of world political time (*synchronic* temporalities) to encompass the multiple ways in which time is imagined (hetero-temporalities or *diachronic* temporalities). The adoption of an analytical framework that acknowledges the diachronic nature of political time allows for a deeper exploration of the foundations of climate politics.

The primary characteristic of a synchronic imaginary is the sense of unceasing development towards a definable, single direction, "a pattern of historical change to which we can attribute either a teleological destination or ongoing development in a definable direction" (Mackay & Laroche 2017, 213; Hosbon & Lawson 2008, Lawson 2010). This is not just change through time writ large, but change with an intelligible form moving toward an imagined endpoint. Second, synchronic accounts of political temporality, in constructing a single, unitary representation of time, are grounded in historicism, constructing a hierarchy between the past and present, the latter viewed as an evolved form of that which came before, the past as "pre-modern" and "primitive" (Chakrabarty 2000). Agents who do not fit this framing (for Chakrabarty, the "subaltern"; for Hutchings 2008, "time creatures") are at worst marked as savage, marginalized to the past, excluded from being considered part of world time, and at best

as simply representing a pre-modern form of European society, on the path of the teleological progression of humanity (Fabian 1983, Inayatullah and Blaney 2004, Behnke 2008). Synchronic temporalities subsumes the narratives arising from locales under a single, global one of reaching and maintaining modernity and economic development. In the case of climate politics, synchronic accounts treat climate change primarily as a crisis that threatens universal subjects, the "globe" and "humanity." In response, "humanity" as a whole shares responsibility for (Walker 2009, Chandler et al. 2018, Salter and Walters 2018). Rather than speaking from a particular subjectivity, synchronic temporal imaginaries of climate change speak irrespective of social, economic, political, or historic differences (Chaturvedi & Doyle 2016). Benjamin's mythologized account of the Angel of History exemplifies a synchronic temporal imaginary (Benjamin 1955[1968]; Hegel 1962). Benjamin compares progress to a "storm": the "angel of history" can do nothing but bear witness to the and be pushed eternally into the future (256-262).

In contrast, post-structural and post-colonial scholarship criticize frameworks that try to synchronize a massive range of experiences, worldviews, and understandings of time under a single narrative. The critique is based on the argument that existing constellations of unequal power and politics, international and domestic, are grounded in the ways in which western societies historically dealt with difference embodied in the Other (Ling 2002, Muppidi 2004, Inayatullah & Blaney 2004, Bell 2013, Tickner 2014, Sethi 2014, Anievas et al. 2014). In particular, difference is articulated through by historicizing narratives of the past as an anachronistic state of inferiority that can be overcome through "progress." Edward Said's "orientalism" and Fabian's "denial of coevalness" are two among many framings of how western actors articulated the epistemology of the Other. For Said, the west constructed the "Orient as an idea with a history, tradition of thought, imagery, and vocabulary" that could and would be

employed to further colonial or imperial goals (1982, 5, 85-86). Fabian extends this discussion to the historical development of anthropology, the origins of which as an academic discipline is based on the temporal distancing of western and non-western societies, "a persistent and systematic tendency to place the referent(s) of anthropology in a Time other than the present of the producer of anthropological discourse" (1983, 31). In short, time has been used in modernity as a tool to deal with the Other, through the formation of a coherent epistemology that frames all non-western societies as *behind* the "present" time of the west. Therefore, post-colonial theory resists this homogenization of political time by recognizing multiple ways in which societies imagine the past, present and future along with the political effects of each imaginary.

Meant to challenge synchronic narratives of political time, diachronic or heterotemporal orientations refer to "the vast array of times that scholars have discovered and mobilised to problematize clocks, calendars, and heroic state narratives" (Hom 2018, 317). For Hutchings, "heterotemporality" is an analytic orientation that acknowledges political time as "a mutual contamination of 'nows'"; the "nows" participate in a variety of temporal trajectories, and which do not derive their significance from one meta-narrative about how they all fit together" (2008, 166). It allows one to "unpick the meaning of different 'presents',," and "understand[ing] alternative temporalisations of the world-political present, without prior reference to a meta-narrative of world-political time" (Hutchings 2008, 173; Guha 1983, Hom 2018).

One fruitful critique of History from a heterotemporal orientation is made by Chakrabarty. For him, the subsuming of Other or alternative temporalities under a singular time involves being stripped of their original meaning, and violently converted into narratives that can be understood from within the epistemological coordinates of the West. This homogenized, synchronic time, what Chakrabarty refers to as History 1, can only be effectively countered and

critiqued by what he refers to as History 2, the multiplicity of pasts that are marginalized or violently destroyed, and kept from constituting the present (Nandy 1994, Baucom 2014).

Crucially, Chakrabarty identifies History 1 as the nation-state's default orientation to the past. It operates through historicism, the hierarchical ranking of societies from those in the present to those in the past, or "modern historical consciousness" (2000, 238). "Indeed, anachronism is regarded as the hallmark of such a consciousness" (ibid). Anachronism here indicates treating something "as a relic of another time or place" (ibid). Recalling the state's articulation of a colonial history of climate change in chapter 2, Chakrabarty cites the "double bind" that encompasses any attempt to articulate a nationalist, distinctly Indian historical narrative, while drawing on the same epistemological assumptions that formed the base of the colonial historiography:

> 'History' as a knowledge system is firmly embedded in institutional practices that invoke the nation-state at every step[…] It does not take much imagination to see that the reason for this lies in what European imperialism and third-world nationalisms have achieved together: the universalization of the nation-state as the most desirable form of political community. (2000, 41)

Chakrabarty makes clear that History 1 should neither be wholly ignored nor embraced, but, along with all social constructions of time, he marks it as simultaneously "indispensable and inadequate" (6). The multiple pasts included under History 2 are not the antithetical binary to History 1's totalized world history but rather act as "time-knots" that blunt, intertwine with, and disentangle its universalizing thrusts.

Post-colonial scholarship in IR, generally agrees with Chakrabarty's notion that world politics involves the struggle between multiple temporalities for legitimacy, arguing that the singular present of world political time is actually replete with numerous temporalities and histories (Chakrabarty 2000; Ling 2002; Hutchings 2008; Inayatullah & Blaney 2004). Here, the

aspiration is decentering a global, all-encompassing temporality, namely the Eurocentric and modernist account that gained influence in the 18th c. (Chakrabarty 2000). Non-European societies, and their associated ways of timing society, were denied any role in constructing a unitary human past. To counter this political project, post-colonial IR scholars argue that the history of world politics must recognize the numerous and coeval trajectories that together make up "world history." These trajectories alternatively intersect, parallel, contradict and cancel out each other. Thus, recognizing the temporal disjunctures that constitute the present is central to any diachronic analysis of international politics.

Drawing on Chakrabarty and other post-colonial scholarship, Hutchings develops a post-structural understanding of heterotemporality by highlighting the analytical limitations of synchronic imaginaries (Wallis 1970; Hutchings 2008; Klinke 2013; Hom 2018, 15). Hutchings traces the conceptual origins of heterotemporality in IR to Derrida's deconstructive approach, which in turn strongly influenced post-colonial and feminist thought on the topic (Hutchings 2008, 167). However, Derrida's conceptualization of plural political times is articulated solely as methodological intervention, an approach that would allow the theorist to recognize the multiple temporalities that constitute the "now" (Derrida et al. 2003). In attempting to theorize the present, theorists contend with the multiple "spectres" that haunt it. These spectres are embodied in marginalized figures like the refugee, the sub-altern, the indigenous, the queer:

> Within his hauntological account, "other times" essentially become the source of an
>
> ethical imperative towards a politics of memory and the "promise of the future", but they are identified with an unrepresentable supplement to mainstream representations of the meaning of the times, and therefore with what cannot be known and can only be hoped for. (2008, 168).

The recognition of these other times haunts the modernist aspiration to represent the present in its totality. For Derrida, their haunting should instill a sense of humility in the theorist. Hutchings follows his lead and directly links the usefulness of developing the concept of heterotemporality to "the way in which the theorist's own complex temporal structure is implicated in and with that which he or she seeks to describe, explain and judge" (2008, 176). Doing so allows for these various temporal representations of world politics to "engage with one another in the ongoing production of new truths and new times" (ibid).

Hutchings expands on Derrida's methodological use of heterotemporality, distinguishing in modernist imaginaries of political time between time creators and time creatures. The former are agents with the self-imposed responsibility to maintain the denial of coevalness between western and non-western societies, what she refers to as "non-simultaneity" (2011, 190). For them, the very nature of politics "is conditioned by the possibility of *making* or *controlling* time" (2008, 160; emphasis in original). In contrast, time creators imagine time creatures as the subjects upon which they impose conceptual frameworks since they are " not competent," "the mistaken, the wicked, the ignorant and the incapable" (Hutchings 2015, 39). The former theorize the time of the present and control the institutions and practices that give everyday practice its temporality. The sense that one inhabits and drives the overarching time of world politics "enables an overarching sense to be made of foreign policy making, international law, global civil society activity, humanitarian intervention, global governance, multiculturalism and intra and inter-state politics in general" (2011, 195). Similarly, discourses that attempt to unify the entirety of climate politics under a single imaginary of global space and time are at their core concerned with manipulating the social experience of time on a planetary scale. Time creatures on the other hand simply inhabit the given time of modernity, their existence doing little to affect

the supposed direction of political time. Hutchings also refers to the heroic quality time creators view the effort to affect the flow of time, i.e. chronotic (2008, 23).

But as Hom points out, there is little in the existing body of IR scholarship beyond discovering evidence of these plural temporalities that constitute the "now" of world politics (ibid). As a relatively new concept in IR, the preoccupation with simply noticing and naming the multiple imaginations of political time makes sense. However, to sharpen the utility of the concept, heterotemporal analyses must theorize exactly how multiple temporalities are used, by which actors, and to what purposes. Kimberly Hutchings and Dipesh Chakrabarty offer complimentary analytical frameworks for detecting and analyzing multiple political temporalities. As a post-colonial historian, Chakrabarty approaches plural temporalities as representing *practices* of domination, resistance and contestation between political agents in the world. For Hutchings, heterotemporality represents an orientation and a worldview a State adopts when attempting to describe the present. I extend both articulations of heterotemporality as analytical tools to assess India's temporal imaginaries of climate change.

This dissertation, following the lead of Chakrabarty and Hutchings, assumes a plurality of physical times and temporal imaginaries at play in constituting the "now" of transnational climate politics. It also treats the history of India's temporal imaginaries at the UNFCCC as an important strand of this patchwork of temporalities. Adopting a heterotemporal orientation allows me to illuminate the role of these multiple temporalities in tracing and explaining India's politics at the UNFCCC. In the next section, I outline my methodology, based on a genealogical analysis of state-produced documents. Each of the texts represents the government's participation in three sets of discourses through which India has articulated diachronic

imaginaries of climate change (post-colonial environmental politics, climate science, and religion).

4. Methodology

4.1 Research Question

How has the Indian government articulated the political temporality of climate change through political, scientific, and religious discourses?

4.2 Framework of analysis

This project examines how states imagine multiple political times of climate change within the international climate regime. Specifically, I analyze how the Indian national government's temporal imaginaries of climate change changed over the course of its participation in the UNFCCC. Tracing the national Indian government's imaginaries of climate change over a period of thirty years illuminates a consistent effort toward building a *common, but non-synchronized* temporal framework with which to theorize world politics in an era of rapid, anthropogenic climate change. India, as a nation-state, has been a major actor in UNFCCC negotiations, a large and influential South state whose continued greenhouse gas (GHG) emissions will one day be quite substantial. In recent years, India has also begun to produce a significant amount of scientific data on existing climate dynamics and projected climate futures, i.e. models. Most recently, Prime Minister Narendra Modi has articulated Hinduism as a framework for understanding climate change and a useful guide to preventing catastrophic climate futures

In order to answer my research questions, I analyze Indian government-produced documents that articulate its positions on assigning states responsibility for mitigating and adapting to climate change spanning the period from 1988-2018. I do so through a critical

discursive analysis that takes state-produced documents as shaping and shaped by temporalities produced through the government's participation in political, scientific, and religious discourses.

4.3 Intertextuality and World Politics as Text

To detect the multiple political and temporal meanings assigned to anthropogenic climate change by the Indian government, I adopt an intertextual methodology. An intertextual methodology assumes the "reality" of world politics can be explored, analyzed, and theorized through social representations like imaginaries, texts and discourses (Muppidi 2004). It also assumes that there exists no discourse or language that can finally or fully encompass reality or a social phenomenon. All discourses, all texts, and the meanings that reside within them, can be traced to co-existing and pre-existing discourses and texts, with differentiated meanings of their own that cannot be pinned down to a final signifier or signified. Thus, discovering meaning always involves unearthing alternative, past, and co-existing articulations of meanings that have been inherited and forgotten, remembered and excluded (Derrida 2002, Shapiro 1989). IR began to embrace intertextuality in the late 1980s with Shapiro arguing that, "[…]the meaning and value imposed on the world is structured not by one's immediate consciousness but by the various reality-making scripts one inherits or acquires from one's surrounding cultural/linguistic condition" (1989, 11). In other words, documents are "reality-making scripts," texts that effect change in the real world.

Postcolonial IR is deeply shaped by the discursive shift towards analyzing language starting in the 1980s and largely influenced by Michel Foucault's and Jacques Derrida's use of genealogical and deconstructive approaches and the responses to them by scholars like Gayatri Spivak (1999). These approaches seek to make the familiar strange, problematize the present, and deconstruct given meanings (Ashley 1988). Hajer defines discourse as ''a specific ensemble

of ideas, concepts and categorizations, that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities'' (1995, 44). Adger et al. argue that discourse analysis involves two initial steps, "(i) the analysis of regularities in expressions to identify discourses, (ii) analyzing the actors producing, reproducing and transforming discourses" (2001). Hajer observes that as a body of epistemological claims, environmental politics ''has increasingly become a conflict of interpretation in which a complex set of actors can be seen to participate in a debate in which the terms of environmental discourses are set'' (1995, 15). Investigating questions like "which texts and voices are included, which are excluded, and what significant absences are there" is key to any critical discourse analysis (Hajer 1995, quote from Fairclough 2003). Language and discourse are analyzed not for what is stated on face value, but for what meanings can be unearthed and traced. In turn, the ways in which actors imbue discourses with meaning and then use this meaning as coordinates with which to initiate action in the world.   In this way, I aim to correlate the temporalities articulated in the documents to the political imaginaries India articulated as a state party to the UNFCCC.

4.4 Genealogy

Genealogy is a technique developed by Foucault in his response to Nietzsche's call to consider the effect of power relations on formations of thought and morality. In later works like *History of Sexuality Vol.* 3, Foucault had come to define genealogy as a way of determining the historical contingencies at play in the formation of thoughts considered knowledge, truth, or even common sense, i.e. an investigation into things and phenomena "we tend to feel without history" (Foucault 1980, 139). At its base, genealogy treats subjects and the discourses they take part in as mutually constitutive (Vucetic 2011).

In general, genealogical approaches to International Relations highlight the historical, discontinuous relationship between constellations of power and knowledge in determining what are taken as timeless norms (Kiersey & Stokes 2011). In this vein, this dissertation explores how notions of climate change's political time came to dominate state interventions in climate politics. Doing so uncovers the centrality that contingency and power play in affecting the directions these imaginaries follow. The discourses that India chose to ground its succession of temporal imaginaries of climate change were by no means predictable at the beginning of India's time at the UNFCCC. Rather, each discursive register was adopted due to non-deterministic circumstances. For example, had the BJP not won the 2014 national election, and had Narendra Modi not become the party's Prime Minister, the State's adoption of a religiously informed climate temporality would not have happened.

4.5 Primary Texts

My objects of inquiry cover a range of speeches, books, scientific reports, and proposals that either directly represented the state's official position at the UNFCCC or were used by the national government to support its positions. In chapter 2, seven texts covering two periods, (1972 and 1989-1992) are analyzed in order to detect the State's earliest climate temporalities. Chapter 3 explores two climate science reports produced in 2010 and 2017. The texts are relevant for being the first such reports produced in whole by Indian institutions and focusing solely on the state's spatialities and temporalities in order to imbue climate politics with meaning. Chapter 4 returns to India's engagements at the UNFCCC, examining four reports the state submitted to the institution that demonstrate an increased reliance on the potential climate future modeled by the scientific reports discussed in chapter 3. Finally, Chapter 5 analyzes six of PM Modi's speeches and one book to assess how he uses *Hindutva* notions of time to

conceptualize the past and future as epistemological resources for guiding the government's climate politics in the present.

5. Discursive Registers

5.1. Post-colonial Environmental Politics

The 1970s and 1980s witnessed the emergence of international environmental politics as a body of practice and policy. Initiated as a topic by concerned scientists, politicians and policymakers soon followed in the early-to mid-1980s. As referenced above, the most enduring divide between state parties to the UNFCCC has been along a South-North divide. The first body of discourses in which India produced texts to articulate its temporal imaginaries of climate change was international environmental politics.

The large number of Asian and African states that came into being between 1945-1970 claimed to be very different from the European nation-states that preceded them owing to their colonial histories, while simultaneously arguing that they were full and equal members of the international society (Prashad 2002, 2013). A problem of quality rather than quantity, "for the first time since the establishment of sovereign states, the newcomers far outnumbered the established membership, which had previously shared a certain similarity in the areas of civilization, religion, political philosophy, and even racial prejudice" (Ayoob 1995, pg 52). Instead, with the majority of the world's states claiming colonial pasts and post-colonial identities, they were defined variously as the "Third World," the Non-Aligned Movement, the "non-West," and more recently, the "Global South."

In summary, the era in which international environmental politics formed as coherent body of norms and practices coincided with the end of the decolonization period and when post-colonial states advocated for thinking alternatives to existing political and financial imbalances

between developing and developed societies. Epistemologically, then, the emergence of post-colonial states and third world manifestations of nationalism challenged western representations of politics. I treat post-colonial articulations of international politics as examples of Michel Foucault's "subjugated knowledges." By "subjugated knowledges," Foucault meant two things. First, the uncovering of histories that speak to the "ruptural effects of conflict and struggle that the order imposed by functionalist or systemizing thought is designed to mask" (1982, 25). In other words, subjugated knowledges refers to those histories in which local systems of thought contested the notion of objectivity that was being associated with modern science in the 17th and 18th centuries. Subjugated knowledges can also name those "that have been disqualified as inadequate to their task or insufficiently elaborated: naïve knowledges, located low down on the hierarchy, beneath the required level of cognition or scientificity" (ibid). In terms of this project, "particular, local, regional" knowledges refer to the appearance and integration of post-colonial societies into the existing international system following World War II.[3] This overlap oftentimes involved struggles over which epistemologies and actors would be tasked with framing transnational environmental crises and constructing political responses.

Beyond invoking the general history of colonialism in order to articulate the concept of historical responsibility, India engaged with a related temporality, namely that of the nationalist drive towards development. As will be discussed further in chapter 2, India during this time consistently cited the need to ensure the continuation of the nation-state's mission to develop, even in the face of climate change. This conflation of environmental crisis and nationalist

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[3] However, even these "subjugated" narratives are articulated by nation-states who themselves impose hierarchies internally to various subaltern communities, In India, the subaltern refers to those groups whose experiences are outside the nationalist narratives of time and space. In India, these include the indigenous (*Adivasi*), women, *Dalits*, and increasingly, Muslims and Christians. As my project focuses specifically on analyzing India's sovereignty as a nation-state within an international institution, Foucault's articulation of subjugated knowledges is more relevant (Guha 1983).

development discourses is critical due to the latter's salience throughout India's 70 year history. On one hand, development, as a matter of taking people out of extreme poverty, is a commonly accepted responsibility that for any nation-state is a necessary project. Starting with the first Prime Minister, Jawaharlal Nehru, the idea of development as a progressive path the state follows, and as a source of pride has been consistent (Guha 2013). On the other hand, Hindess cites how closely ideas of "development" in world politics, adapted from concepts in natural evolution, mimic 18th and 19th c. Orientalist understandings of non-Western societies as inhabiting Europe's past, denying them temporal coevalness with the West (2007). Hom and Steele concur, citing how post-colonial states both absorb and challenge the infantilizing rhetoric of discourses like development (2017, 194).

I will show that in the formative years of the UNFCCC, India invoked the history of western colonialism in order to argue for assigning developed states historical responsibility for climate change based on their past rates of greenhouse gas emissions.

5.2. Climate Science

The crucial role science played in building of the modern Indian nation-state is well documented (Nandy 1988, Prakash 1999, Guha 2008). This is true of both the material effects of scientific and technological advances in everyday life, as well as *imaginations* of these changes to everyday life As Gyan Prakash writes,

> the emergence and existence of India is inseparable from the authority of science and its functioning as the name for freedom and enlightenment, power and progress. Standing as a metaphor for the triumph of universal reason over enchanting myths, science appears pivotal in the imagination and institution of India, a defining part of its history as a British colony and its emergence as an independent nation (1999, 3).

The relationship between "science" and "India" is a story of the mutual constitution of epistemic knowledge and normative concerns, i.e. science as a site of politics and power (Jasanoff 2004).

Adopted from Science & Technology Studies, and similar to the constructivist standpoint in International Relations, the notion of *co-production* argues that "the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it" (Jasanoff 2004, 2). Scientific knowledge is a particularly rich analytical target since it is often portrayed as the most "objective" epistemic project in modernity, a straightforward reflection of the world. Yet it "both embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments and institutions" (ibid).

In a way, co-production is ideal for highlighting the way scientific knowledge has never been viewed as an objective epistemology in India the way it has been in modern, western societies (Latour 1993). Rather, India shows a consistent understanding of science as a form of knowledge imbricated with power and politics. The co-production of modern science and politics in India begins with the subcontinent under British rule and early independence. The concept of modern science in India has always been imbued with a contradictory set of political and social values. On one hand, science has long been viewed as part of and conducive to foreign rule, a distinct body of Orientalist discourses. Both prior to the 1857 Mutiny, when the East India Company held primary authority, and following, when Great Britain took direct control, the vast body of knowledge that was created about the Indian territory and its peoples, was also an important tool for consolidating and maintaining colonial rule. By producing a huge number of studies, surveys, and censuses of India's territorial and human assets, the British created an Orientalist representation of a pre-modern society that could be efficiently governed as a colony:

> Underlying the overall push was science's association in the British consciousness with the refinement and application of universal reason in order to bring non-western societies into modernity. The key here is that the modernity to be achieved was not to be an exact copy along the lines of the western European model; rather, "an uncanny double[...] it was almost the same but not quite" (Prakash 5).

As a vehicle through which modernity expanded around the world, colonialism involved constructing both spatial and temporal boundaries between the colonizer and the colonized. Prakash identifies a central motivation behind the intentions of the Empire: the desire to pull societies outside Europe and North America into the same time as the West, but just almost. There was little sense in 19th century Britain and western Europe of the possibility of transcending the assumptions about biological differences between races, including their capability of fully matching the political, economic, scientific, or cultural development of Europe (Said 1978, Bell 2013). The framework of race itself was supported by pseudoscientific evidence, including dubious projections of Darwin's theory of evolution from the natural world onto the social (Bell 2013).

On the other hand, the concept of science in India has also been associated not only with colonial domination but also simultaneously viewed as conducive to securing some form of access to modernity. And with this access, it was thought by many in upper socio-economic classes that they could prove they were not inferior to caucasians or Europeans (Nandy 1983).[4] Indeed, Ashis Nandy argues that modern colonialism "won not through technological prowess, but the ability to create secular hierarchies incompatible with the traditional order" (ibid. ii). This embodied a second form of colonization i.e. the colonization of the mind, whereby the

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[4] "Elite" here indicate actors in the top echelons of politics, economics, and science, i.e. the state, industry, and university. The focus on "elites'" understandings of science is a conscious one since they have been largely concerned with the intersection of science and India's place in world politics. The majority of "people's" efforts have consistently focused on domestic ecological concerns, for example deforestation, pollution, and land expropriation (Shah 2013, Roy 2018).

concept of the modern West was generalized into a psychological category (ibid. xii). This means that India's relationship to science has always been marked by ambivalence (Bhabha 1984).

In particular, following Independence in 1947, science was partially viewed as a body of knowledge that could be wielded by the state to unlock access to a globalized modernity through mass industrialization. However, when produced and used by western actors and international NGOs, it was still viewed with suspicion, as way of practicing world power politics by another name (Guha 2007). In the immediate years following Independence, Prakash argues that as a potentially helpful, but still foreign, language, and therefore requiring a matter of translation, "trafficking between the alien and the indigenous" (Prakash 1999, 6). It was the same Western-educated elites who, in leading independence and nationalist efforts, "saw reason as a syntax of reform, a map for the rearrangement of culture, a vision for producing Indians as a people with scientific traditions of their own" (ibid). Seeking national independence involved a simultaneous striving for access to a universalized modernity as well as efforts to boost the coherency of the idea of "India" (Guha 2007).   Achieving modern statehood meant being guided by "a body of universal thought for the rational organization of society" (ibid 7). However, similar to the British view, Indian elites viewed Indian modernity as taking a distinct path from Western trajectories and experiences.

Prime Minister Jawaharlal Nehru was instrumental in leading this translation effort, having a "double vision" of science as needing to exist outside politics, yet still maintaining a mutually constitutive relationship that affirmed the nation-state's legitimacy (Nandy 1988). This relationship, since 1947, has consisted of material support, the exchange of ideas, discourses and knowledges, and co-defining goals and ways of achieving them (ibid). Alongside national

security and development, science joined as the third *raison d'état*, one that guided the state's purpose and sense of national identity. In tracing the history of the state's quest for atomic weapon capabilities, for example, Nandy argues that scientific research and knowledge has always been instrumentalist, i.e. thinking of the knowledge and technology being produced as always of use in the real world, whether for the good of India if done internally, or potentially bad if done outside the state.

This brief history demonstrates the extent to which the co-production of scientific and political discourses in post-colonial India involves modifying modernist political temporal and spatial imaginaries to fit the political aims of the national government. Science has been regarded as an epistemology suffused with western political and social norms and used by developed states to achieve political ends. Or alternatively, it is regarded as a body of knowledge that India can wield in order to achieve parity of wealth and status with societies that embody western modernity. The crucial distinction for the Indian government is who produces the science, and where.

This fact comes into strong focus in the history of India's engagement with climate science, which I will turn to in chapters 3 and 4. In those chapters, I will show that the production of climate science by Indian scientific institutions inaugurated the state's turn towards a focus on *potential* futures, rather than its colonial past, as an epistemological resource for understanding politics in the present. This shift occurred for two reasons. First, the production of climate science has been decentered from western sites in the United States and Great Britain to within India itself. Second, there is a growing body of data that shows India has already begun to experience climate shifts and will face extreme ones much sooner than previously

thought. In this way, Indian produced models of future climate dynamics initiated the government's turn towards treating the imagined futures as possible resources.

5.3. Religious Discourses on Climate Change

Finally, there is a growing body of scholarship spanning several disciplines exploring how religious discourses represent climate change (Veldman & Haluza-DeLay 2013, Haluza-DeLay 2014). Analyses that privilege (secular) political and scientific representations of world politics ignore the vital role that "sacred" discourses play in explaining the Indian government's current climate temporalities. In contrast, I argue that such an explanation must include the role of religious discourses and sacred concepts in representing political reality through its influence on the worldviews and ethics of large numbers of adherents, irrespective of political and economic borders (Vasilaki 2012, Francis 2013, Ghosh 2015).

In order to illuminate the temporal imaginaries at play in PM Modi's speeches on climate change, I adopt a post-secular orientation in chapter 5. "Post-secularism" is an analytical framework that responds to "the continued existence of religious communities in an increasingly secularized environment" (Habermas 2009: 63; Wilson 2014). As Chakrabarty helpfully points out, "one empirically knows of no society in which humans have existed without gods and spirits accompanying them. Although the God of monotheism may have taken a few knocks...the gods and and other agents inhabiting practices of so-called "superstition" have never died anywhere" (2000, 16). However, as Dosdad points out, many post-secular frameworks continue to reproduce traditional essentializations of religion and the sacred as the Other, for example "in the 'problem' of how to integrate the Muslim 'other' into their liberal democracies" (Dosdad 2016, 889). These frameworks also mean that sacred worldviews are treated as anachronisms, relics of the past that impede human progress.

The continued reliance on Orientalist constructions of religion and secularism, means that postsecularism has come under attack by post-colonial critics. As Dosdad observes, "many post-colonial authors have radically rejected the idea of post-secularity since they consider it a tool of colonial power […] re-thinking the post-secular from the perspective of post-colonial thought would ultimately be an exercise of self-colonisation" (Dosdad 2016, 898). In contrast, following Dosdad and Asad, I engage with a version of post-secularism that is less interested in using static concepts and more interested in exploring the processes through which political and epistemic boundaries between the "sacred" and the "religious" are constructed, and the resulting effects (Thomas 2010, Wilson 2014, Dosdad 2016). For Asad, "the secular is neither singular in origin nor stable in its historical identity" (2003, 25). Similarly, he argues that "there is nothing essentially religious, nor any universal essence that defines 'sacred language' or 'sacred experience'" (ibid).

Sacred and secular representations of the world vary widely in their understandings of time. "Religion helps us to think of different registers of temporality and it holds up the future as a mode and space of being that is of at least as much critical importance as the present" (Lal 2015, 391). A post-secular analysis of the intersection of religion and climate politics facilitates huge "leaps of imagination", through which to consider "strikingly varying temporalities" (ibid). Finally, religion can "affirm the oneness of humankind," recognizing that "there are certain forms of suffering that are indivisible" (392). Because climate change spills over existing epistemological boundaries, studying religion's role in making sense of a climatically unstable world opens up "bold interpretive moves and radical ethical frameworks that take us well beyond the facts that the science of climate change has laid bare" (ibid).

A post-secular oriented analysis of PM Modi's speeches also shows how religious discourses on climate change are used to maintain or enhance existing power structures rather than fundamentally rethink them, when actors essentialize the concept of "religion" as a body of knowledge to be used for nationalist politics (Haluza-DeLay 2014, 264).

In chapter 5, I show that a full picture of the Indian government's climate temporalities in 2018 requires a post-secular analysis of how PM Modi infuses a Hindu nationalist representation of climate change into the nominally secular world of climate politics. In this way, he has co-constructed religious and nationalist discourses in order to produce novel State temporalities of climate change. I explore how PM Modi deploys Hindu nationalist imaginaries of climate change. In order to effectively analyze his co-construction of a new State temporality of climate change, I focus on which epistemological boundaries Modi affirms, denies, or modifies. He relies on an imaginary of the country's religious traditions to construct a role for itself as an international leader in the future. In a stark shift from India's early climate temporalities that privileged the past, I will show that he treats both the past and potential future as epistemological resources for the present. In this way, Modi treats the ancient past of Hinduism and the future of India as a nation-state as co-equal epistemological resources for articulating political imaginaries.

Chapter 2: The Past as Resource for the Present: India's Early Diachronic Articulations of Climate Temporalities

Abstract: This chapter explores the temporal imaginations in India's discourses in the formative years of the international climate regime, 1988-1992. The texts display several common temporal themes, including: treating climate change primarily as a political, rather than scientific, problem and assigning Northern states historical responsibility for present and future manifestations of climate change with concomitant technical and financial assistance.

1. Introduction

As I briefly discussed in chapter 1, the processes involved in constructing the "environment" as a legitimate area of international politics began just after the moment the formal decolonization era ended (1945-1970). Newly independent post-colonial states challenged what they viewed as highly imbalanced practices and norms of world politics, challenges embodied in the formation of the Non-aligned Movement in 1963 and the proposals for a New International Economic Order in the 1970s (NAM 1963, 1974). Post-colonial states sought to fundamentally shape the meaning and operationalization of the international environmental governance system at its inception.

The issue that most animated these initial discourses was deciding which criteria would be used in determining responsibility for mitigating and adaptation efforts to climate change. The majority of post-colonial, developing states coalesced a common position, namely grounding the conceptualization and operationalization of international environmental politics in the notion of historical responsibility. Some, including India and Brazil, treated it as the foundation for principles instituted in the UN Framework Convention on Climate Change (UNFCCC) to distinguish between commitments for developing and developed states while still

treating climate change as a common issue: ensuring equity, differentiation, and common but differentiated responsibilities (CBDR) between developing and developed states. Against the diachronic idea of historical responsibility, developed states largely coalesced around a synchronized, scientific, and less differentiated understanding of responsibility.

The foundation of the climate change regime coincided with a conjuncture of large-scale global and domestic political shifts, between 1988 and 1992. The most notable event was the break-up of the Soviet Union. Globally speaking, the shift from a bipolar to a unipolar power structure meant that many post-colonial states had to shift their previously pro-Soviet or non-aligned orientations towards new relationships with the United States. In India's case, the loss of one of its closest trading partners and international allies meant that the country had an excess of imports, causing a balance of payments crisis. The government under Prime Minister Narasimha Rao secured, for the first time in the country's history, a $2.2 billion loan from the International Monetary Fund (IMF) (Menon & Nigam 2007). This in turn allowed PM Rao and his Financial Minister and later Prime Minister, Manmohan Singh, to push through neoliberal reforms to the national economy (Menon & Nigam 2007).

However, there were also domestic events that profoundly altered the government's political imaginary. Following from Indira Gandhi's state of emergency between 1975 and 1977, national politics were left profoundly unsettled. Elections in 1977 for the first time saw the Indian National Congress lose power for the first time since Independence, in favor of the Janata Coalition, a collection of parties ranging across the political spectrum. Though this government lasted only two years, it presaged the rise of the Hindu Right's influence in the 1990s. Gandhi and Congress regained power in 1980. But following the disastrous "Operation Bluestar" event, in which the Indian Army destroyed the Sikh Amritsar Golden Temple, Gandhi was assassinated

by her bodyguards on October 31, 1984. Her son, Rajiv, became Prime Minister following her death, initiated the country's economic liberalization and moving towards a consumer-based, rather than export-based, economy. The Congress Party lost power in 1989, again for only two years, but soon after retaking the office, PM Rajiv Gandhi was assassinated.

Altogether, by the late 1980s and early 1990s, these international and domestic dynamics meant that the political imaginary that had consistently held sway over national politicians and policymakers since Independence in 1947 was considerably weakened. The "Nehruvian Consensus," an eponymous reference to the country's first Prime Minister, held that any government's political guidelines center around three lodestars: a generally non-aligned foreign policy, a broadly secular orientation, and a self-reliant and industrializing strategy. Yet, as Menon & Nigam argue, "the political conjuncture of the years 1989-92 constitutes a truly ruptural moment in contemporary Indian history" (2007, 3).

There is little in the literature that explicitly discusses a correlation between these fundamental changes to the national political imaginary and India's initial involvement in the international climate governance regime. Rajan only briefly refers to private communications with a member of the Indian climate negotiating team from the 1992 UNFCCC talks, who mentioned the need to take into account the shifting economic and political realities (1997, 152). It seems very likely that the change in the national political imaginary would necessarily affect and be affected by broader shifts in political and economic realities.

The remainder of this work will demonstrate how the changes to each of the three anchors of the Nehruvian Consensus were at some point exhibited in the country's climate imaginary. The novel unipolar international system led India first, to act as if it spoke for the entirety of the Third World in the UNFCCC negotiations; and lately now, to speak from its own

position as an influential state actor on par with China, the United States, and the European Union. The Congress Party's fall from uninterrupted power and the concomitant rise of the BJP rise of an explicitly religious political movement in the form of *Hindutva*, opened the way for Prime Minister Narendra Modi to frame climate change as an explicitly religious phenomenon. And the shift to a liberalized, consumer-based economy meant the government would be highly sensitive to any potential caps on carbon emissions and hence, economic growth.

My aim in this chapter is not to replicate the existing scholarship on the role of the South/North divide or India as a state party in the formative years of the UNFCCC (Kandlikar & Sagar 1997, Rajan 1997, Gupta 2010, Dubash 2013, Isaksen & Stokke 2013, Joshi 2013, Ciplet 2015, Mahony 2014). Instead, I build on it in order to foreground a temporal analysis of India's positions at this time. India's particular framings of international environmental and climate politics from 1972-1992 rest on temporal imaginaries of both world politics and the threat presented by environmental degradation and global warming. By treating its colonial *past* as an intelligible source of knowledge for justifying its contemporary climate politics, India sought to instill a diachronic temporality into the UNFCCC, one that acknowledged a plurality of political histories that constitute the present of world politics.

This chapter outlines how India's articulation of historical responsibility was shaped by its participation in two debates between developed and developing states in the new areas of international environmental and climate politics. The original debate was whether to institutionalize a political (UNFCCC) or scientific (IPCC) process of policymaking, each with its own inherent temporal orientations. The second debate centered on the relationship between the temporalities embodied in the national initiative of development and potentially disruptive climate futures. India's decisions to articulate climate change foremost as a political issue, and

to prioritize development (i.e. increasing greenhouse gas emissions) led it to argue that the UNFCCC should operationalize the concept of historical responsibility. Taken together, these positions outline a diachronic temporal imaginary of climate politics that consisted of treating India's colonial past as a legitimate and intelligible guide for climate politics in the present.

1.2 Documents & Analytical Framework

In order to outline the national Indian government's formative temporal imaginary of climate politics, and its impacts on the final draft of the UNFCCC, I analyze six documents drafted by the government or those used by the government to communicate and justify its positions. Together, I treat the documents as an intertextual representation of the national government's understanding of the foundations of the concept of historical responsibility. The chapter concludes by briefly analyzing the final draft of the UNFCCC to assess the impacts of India's efforts to institutionalize a diachronic political temporality in international climate governance.

The oldest document is the transcript of PM Indira Gandhi's speech at the 1972 UNCHE. The other five documents were composed in the two years immediately preceding the 1992 signing of the UNFCCC text at the June 1992 Earth Summit. The first three documents come out of the 1990 Conference of Select Developing States on Global Environmental Issues, hosted by the Indian Ministry of Environment and Forests and Tata Energy Research Institute, a prominent research NGO.[5] The next document is the government's 1991 proposed draft of the UNFCCC text. The final document is the 1991 essay, "Global Warming in an Unequal World," authored by two prominent Indian environmental scientists and advocates in order to provide the government a resource to reference in the UNFCCC negotiations.

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[5] Participating states included Venezuela, Zimbabwe, South Korea, Pakistan, Argentina, Malta, Saudi Arabia, Nigeria, Sri Lanka, Yugoslavia, Senegal, Malaysia, Indonesia, Egypt, Guyana, China, Brazil, and Kenya.

Table 2.1 - documents under analysis in ch. 2

Year	Text	Conference/Authors
1972	PM Indira Gandhi speech	UN Conference on the Human Environment (UNCHE)
1990	"1992 Conference on Environment and Development"	Conference of Select Developing Countries on Global Environmental Issues
1990	"Green House Effect and Climate Change - Issues of the Developing Countries"	Conference of Select Developing Countries on Global Environmental Issues
1990	"Technology Transfer and Funding Mechanisms"	Conference of Select Developing Countries on Global Environmental Issues
1991	"Non-paper: Draft Framework Convention on Climate Change"	Intergovernmental Negotiating Committee, Third session
1991	*Global Warming in an Unequal World: A Case of Environmental Colonialism*[6]	Agarwal, Anil and Narain, Sunita. Centre for Science and the Environment

Critically analyzing these documents reveals two aspects of India's political imaginary that it used to ground its interventions in the years leading up to immediately following the UNFCCC's formation. The first is the State's use of India's colonization in order to imbue "now" with political meaning, i.e. its argument for historical responsibility to be the grounding of the UNFCCC. The second aspect of the State's temporality at this time is its prioritization of present, rather than future, generations through emphasis on poverty reduction and economic

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[6] While not an official State document, it was nonetheless strongly influential of Indian position at the INC talks, as well as a common narrative regarding responsibility for and equity in climate change politics that the G-77+China agreed to.

growth.[7] Together, India's earliest temporal imaginary of climate change was past-oriented, treating its colonial history as an intelligible resource for guiding its climate politics.

2. The Beginning: PM Gandhi's 1972 Speech at the UN Conference on the Human Environment

While multilateral environmental treaties between states were already in existence, the 1972 UN Conference on the Human Environment (UNCHE) is the first instance of the "environment" being treated as a standalone issue in international politics (Rajan 1997, Najam 2005, Alam et al. 2015). Scholars also trace the origins of the South-North divide in international environmental politics to the conference (Mickelson 2015).

In 1968, the UN General Assembly resolved to hold the first global environmental state conference in order to see which issues a majority of states could agree to work on in a coordinated way (UNGA 1968). Even this early, there existed a clear divide between developed and developing states regarding what issues should be included in the conference's agenda. Developed states led early preparation efforts, including agenda setting and largely focused on environmental degradation prevalent to industrialized societies: air and water pollution, and waste processing (Mickelson 2016, 111). Developing states in contrast viewed the early draft agenda as concerned solely to articulating environmental issues in terms of developed states experiences. To ensure the Conference was viewed as legitimate, the Conference's Secretary-General, Maurice Strong, tasked himself with securing the wide participation of developing states. In doing so, he realized that key to ensuring newly independent state participation was to

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[7] Other post-colonial states, Brazil among others, also argued for enshrining historical responsibility in the UNFCCC, with slightly different reasonings often based on their own, national experiences of colonialism. For further reading see Friman 2005.

redefine the concept of the environment itself, to "link it directly to the economic development process and the concerns of developing states" (Strong 2000, 121).

A report commissioned by Strong in preparation for the conference ascribed environmental degradation in developed states to the *effects* of industrialization, while in developing states it was due to a *lack* of development (Founex Report 1972). As Mickelson puts it, the report argued that for the conference to be considered legitimate by a majority of states, "different kinds of environmental problems," multiple experiences ecological crises, would have to be included within the category of *international* (2016, 113). It is this recognition of a division between a single or pluralist experiences of worldwide ecological crises that marks the original and ongoing disagreement within international environmental politics.

In other words, the nascent period of international environmental politics, capped by the 1972 UNCHE and the 1992 Earth Summit, was marked by contestations between synchronic and diachronic frameworks in terms of both problem construction and resolution. The synchronic imaginary treats the spatial and temporal realities of environmental crises as experienced in the North as globally relevant. In contrast, developing states sought to institutionalize a diachronic, or pluralist, representation of climate change and politics.

The foundations for India's later articulations of climate change politics were laid down in PM Gandhi's speech at the UNCHE. India's participation at Stockholm is notable since Gandhi was the only head of state, besides the hosting Swedish President, to attend the conference and address it. The state also sent a large contingent of representatives compared to other developing states (Ramesh 2014). Gandhi's speech is notable in two ways. First, she articulated a view of environmental politics from an explicitly post-colonial viewpoint. Second,

she bases this post-colonial view of environmental politics on the priority of poverty-reduction programs in developing societies.

2.1 Framing the Environment as an International Political Issue

Gandhi repeatedly cites the past as a critical guide to determining the shape of politics in the present. She begins with a brief reference ancient Mauryan emperor Ashoka, who ruled over large swaths of the subcontinent from 268-232 BCE, and a long tradition of the environment coming under the protection of the sovereign (Gandhi 1972). More recently, she cites the history of European colonialism and industrialization as the cause of present-day political and financial imbalances that in turn cause massive environmental degradation.

> We are supposed to belong to the same family sharing common traits and impelled by the same basic desires, yet we inhabit a divided world. How can it be otherwise? [...] The riches and the labour of the colonized countries played no small part in the industrialization and prosperity of the West. (1972)

In other words, one cannot legitimately imagine the politics of today without acknowledging the very divergent pasts that manifest "history" (Chakrabarty 2000). Gandhi articulates two separate but related histories. Echoing the Fournex Report commissioned by Strong, developed societies contemporary environmental politics are shaped by their relatively early industrialization. And this industrialization was only made possible by resource extraction from colonies, which in turn resulted in present-day underdevelopment.

> Many of the advanced countries of today have reached their present affluence by their domination over other races and countries, the exploitation of their own natural resources. […] They got a head start through sheer ruthlessness, undisturbed by feelings of compassion or by abstract theories of freedom, equality or justice" (Gandhi 1972).

The second aspect of Gandhi's framing of the meaning of environmental degradation involves articulating it as a problem, even of catastrophic levels, but one with possible

resolutions. First, environmental issues present fundamental challenges to orthodox processes and conceptions of politics.

> It is clear that the environmental crisis which is confronting the world, will profoundly alter the future destiny or our planet. No one among us, whatever our status, strength or circumstance can remain unaffected. The process of change challenges present international policies" (Gandhi 1972).

Given how environmental degradation interferes with the aims of societies and states, she frames political processes, rather than scientific or technological ones, as the primary way for *resolving* it. She states that, "pollution is not a technical problem. The fault lies not in science and technology as such but in the sense of values of the contemporary world which ignores the rights of others and is oblivious of the longer perspective" (1972). Environmental degradation is constituted by a confluence of temporalities, natural and post-colonial politics, that in turn continues to shape international environmental politics today.

2.2 The Relationship Between Environmental Issues and Development Narratives

After outlining the divergent historical pathways developed and developing states followed to reach present day conditions, Gandhi links poverty and development as the analytic posts with which to identify environmental politics in the latter:

> The environmental problems of developing countries are not the side effects of excessive industrialization but reflect the inadequacy of development. The rich countries may look upon development as the cause of environmental destruction, but to us it is one of the primary means of improving the environment for living, or providing food, water, sanitation and shelter; of making the deserts green and the mountains habitable. (1972).

> Indeed, the Indian development project marks a milestone of massive proportions: "For the last quarter of a century, we have been engaged in an enterprise unparalleled in human

history-- the provision of basic needs to one-sixth of mankind within the span of one or two generations" (1972).   In other words, to understand the environmental threat facing societies, one must also acknowledge the threat that specifically faces developing societies deep, endemic poverty for those people currently living: "We do not wish to impoverish the environment any further and yet we cannot for a moment forget the grim poverty of large numbers of people. Are not poverty and need the greatest polluters?" (Gandhi 1972).

For the first time, a sitting head of state linked poverty alleviation and the protection of the environment, as not mutually exclusive concerns. The primacy of national development projects implies that developing societies view environmental problems as secondary concerns. Conversely, environmental issues, to some extent, are a problem for the future of developing societies:

> There are grave misgivings that the discussion on ecology may be designed to distract attention from the problems of war and poverty. We have to prove to the disinherited majority of the world that ecology and conservation will not work against their interest but will bring an improvement in their lives. To withhold technology from them would deprive them of vast resources of energy and knowledge. This is no longer feasible nor will it be acceptable. (1972)

In summary, Gandhi outlines two critical temporalities that would shape, to a large extent, the national government's later political positions at the start of the UNFCCC. First, when imbuing international environmental politics with meaning and content, multiple narratives must be acknowledged. Second, in acknowledging the divergent but related paths that led to the present, a legitimate international environmental politics must have at its core the issues that face the majority of the world's population, i.e. a lack of development. Thus, the legitimacy of this area of international politics requires treating the past as a central source of knowledge.

3. The Political Temporality of India's Participation in the Early Years of the UNFCCC (1990-1991)

The fifteen years following the UNCHE saw a growing number of international conference, reports, and discourses produced by scientists and policymakers in favor of building globally encompassing environmental treaties (Brandt Report 1978, 1st World Climate Conference 1979, Brundtland Report 1987). With the successful adoption of several near-global environmental treaties during this time (the UN Convention on the Law of the Sea, 1982; the Vienna Convention for the Protection of the Ozone Layer, 1985; and the subsequent Montreal Protocol on Substances that Deplete the Ozone Layer in 1987), momentum built in favor of drafting a global treaty on climate change.

With the General Assembly's resolution labeling climate change as a "common concern of mankind" in 1988, the UN took the lead on framing climate change as a major international environmental issue.[8] However, while the resolution determined that a coordinated international response was ideal, it left it to states to determine what operationalizing "common concern" would mean. Thus, from 1988-1990, state representatives and scientists argued over two related concerns. The first issue was whether political or scientific actors should lead policymaking. The second was how to distribute state responsibility for taking action.

During this period, developed states generally coalesced around the idea that all states should share a measure of responsibility for mitigating greenhouse gas emissions. They also generally agreed that that climate change should be treated first as a scientific, rather than political, issue. This point was affirmed with the formation of the Intergovernmental Panel on Climate Change (IPCC) by the same 1988 UN General Assembly resolution. The IPCC was

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[8] "Protection of global climate for present and future generations." A/RES/43/53. December 6, 1988.

meant to represent international consensus on the scientific framing of the phenomenon. International climate meetings at this time were also largely co-organized by scientific institutions and developed states. The majority of participants and attendees were scientists and developed state representatives[9] (Rajan 1997, Najam 2005). The IPCC's First Assessment Report and the Second World Climate Conference were held in July and October 1990 respectively. Each called for the formalization of an international climate governance institution, with scientists taking a leading role in developing policy.[10]

In contrast, developing states argued that any institutionalization of international climate governance must be an explicitly political process, rather than scientific. State representatives and policy-makers should be driving the agenda, with climate scientists providing critical data and guidance. Further, binding responsibility to lower greenhouse gas emissions was to stay confined to developed states. Some of the developing states' opposition to developed states synchronized position was due to the lack of developing state participation in scientific networks that developed states engaged in. Developing states lacked both the funds with which to send delegations to international conferences as well a general lack of capacities to produce or even analyze climate scientific data. Additionally, developing states treated scientific, political, and popular concepts of the environment as local or regional issues. In India's case, the 1982 *State of India's Environment: First Citizens' Report*, and the 1985 formation of the Ministry of Environment and Forests exemplify how India conceptualized environmental crises like deforestation, urban smog, chemical pollution and clean water access.[11] Further, the text argued that the conflation of scientific discourses as well as the push to conceptually frame climate

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[9] 1989 Hague Summit, 1989 Noordwijk Conference
[10] ibid
[11] Centre for Science and Environment. Envfor.inc.in. "Climate change" was added to the Ministry's name in 2014.

change as a "global" concern threatening "humanity," echoed colonialist tropes. The implicit

globalized timeframes of climate science will be explored further in chapter 3.

Developing states won the debate over treating any future climate treaty as a political

process only through numerical majority, securing a resolution in December 1990 that

established the Intergovernmental Negotiating Committee (INC), the institution responsible for

drafting what would become the text of the UNFCCC (General Assembly 1990, Rajan 1997).

Consisting of 102 state parties, the INC initiated an explicitly political process towards the

formation of a framework convention, i.e. a legally binding treaty with nation-states as the

primary actors (Biniaz 2018). The following two years were marked by a flurry of discursive

constructions by Indian actors, state and non-state. Each of the discourses sought to build

consensus within the national government regarding assigning developed states financial and

technological transfers and so operationalize the principle of historical responsibility. This way,

India and other post-colonial states could continue to prioritize development efforts.

India's political positions at this time articulate climate change as a *common*, but not

global crisis. As opposed to the synchronization of narratives that a"global" framework implies,

"common" represents climate change as a problem that physically exists everywhere, but

manifests in different ways for different communities and regions. In the next section, I analyze

India's position on framing climate change as a common issue in the final UNFCCC text through

five documents it produced between 1990-1991. Three of the documents are from the

Conference of Select Developing Countries on Global Environmental Issues, referred to

hereafter as the "Conference", hosted by India in order to build consensus among developing

states. The second document, India's proposed text for the UNFCCC, sought to affect the

direction of the INC negotiations took as a whole. Finally, the Agarwal & Narain report, written

by the Center for Science and Environment, a prominent research NGO, is a document that was adopted wholeheartedly by the national government as part of its arguments during the two years preceding the UNFCCC's formation.

3.1 Treating Climate Change as a Common or Global Problem

The first distinctive aspect of India's temporal imaginary of climate change from 1990-1992 involved framing climate change as a *common*, but not *global*, crisis. As I will discuss further in chapter 3, globalized treatments of climate change gained discursive currency among developed states with the advent of increasingly sophisticated computer models. These models sought to provide a planetary, rather than local or regional, picture of climate change as a phenomenon. The increasing sophistication of these global models meant that local and regional climate dynamics were marginalized. Developing states argued that policy discourses that relied on scientific representations of climate change to develop political representations of climate change ignored the range of manifestations across regions (Rajan 1997).

The earliest articulation of India's insistence on acknowledging multiple histories in the UNFCCC text in this period are in the Conference documents. One of the Conference documents states that, "due to historical reasons such as colonialism and feudalism these countries [developing] started with a very low base in agricultural and industrial production" (1990, 203). In other words, due to the historical predation of the North on the South, dealing with deep poverty are the most pressing concerns for the latter group in the present day. Remarkably, the text attributes some environmental degradation to the development paths developing countries have chosen, i.e. unmanageable urban sprawl, intensive agriculture, and river pollution. (1990, 206). Contrary to common Northern objections that it was the South's invoking the history of colonialism that deepened the divide between itself and the South,

Agarwal & Narain assert that, "the manner in which the global warming debate is being carried out is only sharpening and deepening the North-south divide" (1991, 5). Rather, they argue, it is the North's attempt to ignore the lingering effects of colonialism and imperialism and hence avoid responsibility for what is essentially a catastrophe of their making that leads to a sharp South-North divide. They also articulate a past-oriented imaginary in order to justify India's prioritization of existing generations. The concern with the nexus of development projects and environmental concerns is affirmed when Agarwal & Narain labeled the WRI report as "anti-poor and anti-Third World" (1991, 9).

Throughout the documents, a diachronic imaginary is articulated, based on differences in *contemporary*, sub-global experiences of environmental degradation and climate change. For example, the proposed UNFCCC draft explicitly states that, "the largest part of the current emission of pollutants into the environment originates in developed countries, and recognizing therefore that these countries have the main responsibility for combating such pollution" (1991). Following right after this, the government argues that it is the "excessive past and present anthropogenic emissions of greenhouse gases have led to accumulated concentrations in the atmosphere" that will adversely affect humanity. While at first this might read as an acknowledgement of India's own greenhouse gas emissions in the present-day, the qualifier *excessive* maintains the onus on developed state emissions, both past and present. *Excessive* also indicates a difference from emissions considered necessary, in India's case, for development and poverty-reduction projects in the present and near future.

The State's documents also directly critique efforts to globalize the threat climate change posed to abstract signifiers like "humanity" today or in the near future. For example, the Conference papers criticize the level of attention given to "so-called 'global' environmental

issues, such as depletion of the ozone layer, global warming and climate change, acid rain etc" in international discourses at the time (202). The categorization of these phenomena as "global" meant ignoring environmental issues specific to developing countries like "land degradation, deforestation and desertification" (1990, 202). India argued that the term "global" fails to represent fully the range of environmental crises. Second, the State's documents assert that if different societies are experiencing different environmental threats, it is difficult of talking of a shared present or shared now. While climate change effects may become a crisis for India in the future, other threats are much closer in time. The plural temporalities of climate change's origins and potential threats articulated in these documents together draw a diachronic representation of climate politics.

These documents outline how the Indian government originally framed climate change as a common crisis for the world, rather than a singular narrative of the environment and world politics. Thus, India's framing of climate change as a phenomenon requiring a common framework was based on the explicit foregrounding of a diachronic temporal framework. The next section turns to the documents' conflation of the relationship between the times of environmental crises and the temporalities of national development and progress.

3.2 Environment & Development Temporalities

India's second primary framing of climate change and environmental issues in the lead up to the UNFCCC prioritizes the States commitment to development, integrating two different future temporalities. The documents demonstrate how India placed the time of climate change and the temporality of its poverty reduction and development projects in conflict with to each other, as alternatively commensurable and not.

The Conference documents assert that, echoing PM Gandhi's speech, "environmental protection cannot be isolated from general issues of development" (1990, 102). Further, "environmental and developmental issues are closely intertwined and consequently environmental goals and policies need to be defined in relation to and contribute to overall development objectives" (1990, 201). What is notable about this construction is how financial and technological transfers from developed to developing states are conceived as necessary for the latter to continue to poverty reduction efforts. Deep poverty commits these states to the well-being of present generations first, not future ones as proposed by developed states.

One of the Conference documents outlines the "policy issues for discussion" among the participating developing states, with issues 3 and 5 most pertinent. Issue 3 is "should developing countries accept any targets in areas such as energy efficiency, afforestation, control of deforestation, etc.?" The document asserts that,

> it will be generally accepted that the emissions by developing countries are bound to grow with their development but attempts will be made to limit the rate of this growth by imposing targets on energy efficiency, afforestation, etc. (1990, 78).

Developing states should ensure that any internationally binding political framework should " not impede their developmental efforts, or place weighty obligations on them" (1990, 74). Further, "developing countries would accept particular responses only if they do not impede their economic development or reduce the resources currently available for such development." (75). Thus, while formalizing legally mandated reductions on developed state GHG emissions are an important part of the UNFCCC process, they should be "accompanied by positive and supportive measures to enable such countries [developing] to adjust smoothly…" (1990, 203). From India's viewpoint, developing states required assistance in order to avert a future of climate crisis while they maintain their resources for development and poverty reduction efforts.

India's proposed UNFCCC framework argued for the explicit connection of development and the environment in the UNFCCC text. Indeed, much of the language and underlying principles were reflected in the final Framework Convention text. Further, Article 4.7 was included almost verbatim from India's proposed UNFCCC framework, Article 2.4 (INC 1991). Recalling Gandhi's linking of poverty and environmental concerns, the draft UNFCCC text affirms the "direct interrelationship between environment and development" and recognizes that the main priority for developing countries is the "eradication of poverty and the achievement of economic and social development" (ibid). Finally, it also argues that developing states' greenhouse gas emission limits should not be accepted, since "emissions must grow to accommodate their development needs."

Beyond the interventions in the form of efforts to build consensus among post-colonial states, India also sought to make interventions at the yet-to-be-formed UNFCCC. The next section will outline how the State argued specifically the operationalizing of historical responsibility.

3.3 Assigning Historical and Contemporary Responsibility to Developed States

Overall, the documents articulate two positions in relation to climate change: a politicized framing of climate change, along with the integration of the temporality of international climate politics with the present and future orientations of national development goals. This section explores how the documents articulated interventions based on assigning developed states historical responsibility for climate change.

One of the Conference papers directly links assigning developed states responsibility in the present-day to mitigate climate change based on their history of excessive greenhouse gas emissions: "it is the developed countries which have created and continue to add to the threats of

climate change and it is primarily their responsibility to reverse the situation by setting limits on their emissions of greenhouse gases" (1990, 74). The temporal character of the qualifying phrase, "have created and continue to" indicates a past and present assigning of responsibility, though little detail is given to the exact timeline. The assigning of past and present responsibility to the developed states means that "it is primarily their responsibility" to ameliorate the situation by drastically reducing their GHG emissions (1990, 76-79).

Together, the Conference documents argue that the welfare of existing populations takes precedence over the potential for climate change threatening future populations. Thus, if developed states want developing states to be involved in international and local environmental issues, their involvement would be contingent on massive technological and financial transfers from the North to the South. These transfers in turn would assist in reducing poverty, what Indira Gandhi referred to as the greatest polluter (1972). The Conference documents also propose that developed countries should be solely responsible for contributing to a general "Earth fund" on the basis "of the principle of 'polluter pays'" (1990, 212). Finally, the documents inquire into whether developing countries should push for detailed clauses on technology transfer and funding mechanisms in what would become the UNFCCC or wait to incorporate them in any protocols that would follow.

The proposed UNFCCC draft also details language that would commit State parties to acknowledging the differentiation of responsibility along a developing/developed state division. The majority of commitments for mitigation and adaptation efforts were to be adopted by developed country parties: the implementation of national strategies to reduce per capita GHG emissions; the provision of financial resources and environmentally sound technology to developing states to implement mitigation and adaptation efforts; and the support of developing

state efforts to develop "endogenous capacities in scientific and technological research" directed at climate change. Finally, Article 2.4 of the proposed UNFCCC draft commits developing states to "consider feasible measures with regard to climate change" provided the full costs are met by new resources from the developed states. The proposed draft also reiterates the assertion of responsibility for climate change, asserting that developed states are primarily responsible for mitigation and adaptation efforts, both domestically and abroad, owing to the GHG they have emitted both currently and historically (INC 1991).

Agarwal & Narain's essay, written as a critique of the 1990-91 World Resources Institute (WRI) report, continues this line of thinking. The WRI, a prominent American environmental research NGO, framed climate change as a threat alternately to to the "globe" and to "humanity," which meant that all states, developing and developed alike, shared equal responsibility for mitigating and adapting to climate change (1991, 1). In contrast, Agarwal and Narain argue that there is ample historical precedent that justifies suspicion towards the "global rules and global discipline that is being thrust upon the hapless Third World" (Agarwal & Narain 1991, 3). In contrast to the WRI report's attempt to construct a scientific and therefore supposedly a-political framework of a globalized concept of climate change, Agarwal & Narain assert doing so is simply an "excellent example of environmental colonialism", i.e. an inherently political issue (1991, 1 emphasis in original).

Thus, in looking to shape the final text of the UNFCCC and the contours of what would become the international climate governance regime, India's argument for historical responsibility is fundamentally based on a diachronic temporality. The next section explores the extent to which India's desired diachronism was present, following the conclusion of the INC negotiations, in the final draft of the UNFCCC text.

4. The UNFCCC Text: Expressing a Diachronic Temporality?

The final text of the UNFCCC, signed at the 1992 Rio Conference and ratified by the requisite fifty states in March 1994 (UNFCCC 2018). The text is significant for its reach (signatories include all 197 UN member states, plus the European Union, Palestine, the Cook Islands, and Niue) and its subsequent role as the textual embodiment of international climate politics. As the foundational text of the international climate governance regime, the norms included in the UNFCCC would outline the boundaries of what forms of politics would be considered legitimate or not. The text prioritizes nation-states as the primary agents in this area. And it enshrined, for at least for the near future, a clear bifurcation of responsibility between developing and developed states (non-Annex and Annex 1 & 2 respectively).

The final draft of the UNFCCC is considered as generally favoring developing state positions on assigning responsibilities, i.e. emphasizing the principle of equity through differentiation (Rajan 1997, Friman 2007, Sengupta 2012). The Preamble notes that "the largest share of historical and current global emissions of greenhouse gases" originated in developed states; that all countries have common but differentiated responsibilities and respective capabilities (CBDR-RC) in regards to combating climate change; and that any proposed environmental legislation and management "should reflect the environmental and developmental context to which they apply[…] in particular, developing countries." The Preamble also states that responses to climate change should take "into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty"; and finally, that parties to the UNFCCC are "determined to protect the climate system for present and future generations." Further, the majority of the Commitments section are assigned to developed states. Articles 4.3 and 4.4 commits developed country Parties to "new

and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1 as well as to assist developing country Parties "in meeting costs of adaptation to those adverse effects." Finally, 4.7 was inserted almost verbatim from India's non-paper, understating how strongly developing country Parties implement their commitments depends on the developed states committing financial resources and transfers of technology, as well as acknowledging that "economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties." Read in this way, the text expresses a strong measure of differentiation between states' past and present experiences of and contributions to climate change, i.e. a diachronic temporality of international climate politics. Ultimately, however, the text sought to institutionalize a singular political temporality.

And as will be seen in the next two chapters, the UNFCCC remained a site of significant conceptual contestation, as state parties continued to argue over the operationalization of concepts and discourses. The two most important conceptual cornerstones of the UNFCCC are ones that were simultaneously the most open to interpretation by the parties: equity and common but differentiated responsibilities (CBDR). Equity, very broadly according to India, implies the equitable and fair distribution of Earth's capacity for absorbing GHG emissions. Developed states, in contrast, interpreted equity as requiring all states to be bound to some level of commitment in the new agreement. As a form of compromise, and with India's strong influence, the final UNFCCC draft was grounded in the principle of CBDR. It treats climate change as a matter of common concern by committing all state parties to some level of participation in the international climate regime, based on the present-day manifestation of past political and economic practices. It strongly differentiates between assigning developed and developing states

responsibility based on cumulative commitment to environmental degradation, harkening back to

Gandhi's speech and again, invoking a past-oriented imaginary. In contrast, North states

continued to argue the corollary, that "respective capabilities" should only be based on

contemporary contributions to GHG emissions, a globalized, unitary approach. I will return to

the expression of diachronism in the UNFCCC in the concluding chapter, especially as it only

takes into account alternative *State* temporalities.

5. Conclusion - India's Diachronic Imaginary of the Past and Present

In its engagement with the broader, emerging discourses on constructing an international

environmental and climate governance system, India's positions express a clear distinction

between the temporal orientations of developing and developed states. In addition to the

epistemological violence a universalist narrative of climate change commits, the other problem

with a synchronic climate temporality lies in the fact that it does not acknowledge the multiple

state and regional experiences of climate change.

> If climate change is about change in the human-nature interface then it is important to acknowledge the history of the destruction and disappearance of nature in pursuit of primacy and domination, including the colonial chapter, is much longer than the history of global warming. The histories as well as the geographies of the domination of nature are still unfolding, with serious implications for human-livelihood security, and they must not be marginalized or erased by increasingly alarmist narratives of climate change (Chaturvedi & Doyle 2015, 20).

This chapter demonstrates the extent to which India articulated a diachronic temporality

of climate change from that articulated by developed states. This temporality was based on

India's particular historical experiences and memory of colonialism and the current emphasis on

national development. The temporality remained generally consistent from the time of PM

Gandhi's speech at the UN Conference on the Human Environment through the UNFCCC's

formation.

However, since the original draft of the UNFCCC text does not foreclose the possibility of articulating a pluralist view of the times and politics of climate change, the institution remained a crucial site for state actors to articulate and deploy multiple temporal representations. Notably, in subsequent years, post-colonial states like India began to contest not just imaginations of the past, but also imaginations of potential climate futures. Therefore, to conclude, I want to turn from the documents' explicit emphasis on the past as a legitimate epistemological foundation upon which to represent the present reality of climate change to them being used to articulate visions of futures. I will compare the visions of the future, few though they are, as articulated in Indira Gandhi's 1972 speech with the state's later articulations starting in the late 1980s.

Documents from both eras reflect a post-colonial temporality, namely the recognition of how articulations of temporal imaginaries are used as tools of political control and order. In an interesting way, the documents' articulation of the past as a legitimate body of knowledge reverses the west's traditional ways of dealing with difference in the form of non-western societies: Orientalism and the denial of coevalness. In contrast, India insists on treating its historical narrative of British imperialism as a legitimate one for understanding the contemporary manifestation of climate politics. In doing so, it affirms a measure of epistemic sovereignty, the right to construct and represent its experience of the climate, not to be spoken for by other states. Thus, the documents articulates "India" as an active, and influential agent in a burgeoning aspect of world politics, i.e. climate politics.

A scientific framing of climate change supposedly offers an objective and therefore *global* picture, and so by default denies the validity of subjective and local experiences. India's early resistance to a scientific framing of climate change will be explored further in chapter 3.

Further, by prioritizing a scientific framing of climate change, rather than a political framing, western states articulated synchronic representations of climate politics, on the need to construct a common temporal and spatial reference interpreting the meaning of climate shifts. This is in contrast to past attempts, during the colonial era, in which western actors deployed temporal narratives as a ways of keeping non-western societies outside the time of the modern world.

In contrast, India's argument in favor of a political, rather than scientific, framing of climate change acknowledges disparate, inhabited times of potential climate pasts and futures. In other words, India, in the era of climate change, denies the legitimacy of a shared, global time of climate change. In this way, it is India that denies coevalness, a shared climate temporality, between developed and developing states.

Yet, Gandhi does much more in terms of articulating potential futures than the state's later articulations. Several times, she describes the ecological crises facing all societies in coming years:

> It is clear that the environmental crisis which is confronting the world will profoundly alter the future destiny of our planet. [...] Will there be a more equitable sharing of environmental costs and greater international interest in the accelerated progress of the less developed world? Or, will it remain confined? [...]While each country must deal with that aspect of the problem which is most relevant to it, it is obvious that all countries must unite in an overall endeavour. There is no alternative to a cooperative approach on a global scale to the entire spectrum of our problems. (Gandhi 1972)

The politics of the future, in view of a changing and potentially dangerous environment and climate, therefore relies on some measure of international cooperation. For the Indian government in 1972, representing environmental issues as local and regional experiences first was critical.

In contrast, the Indian government texts from the 1990-1991 period do not articulate climate change as a significant, future catastrophe facing India. Further, there is a more nuanced

framing of Gandhi's call for international cooperation and for India to claim some responsibility for its own part in environmental crises. Rather, the documents from this period focus nearly exclusively on articulating financial responsibilities of developed states. However, following 1992, states continued to question whether to narrativize climate change as a globalized and synchronized crisis, especially as it is co-produced through the relationship between climate science and international politics. It is the question of co-producing scientific and political climate futures that I turn to now.

<u>**Ch. 3 Producing Nationalized Futures of Climate Change: Regionalized Climate Science in**</u>

<u>**India**</u>

1. Introduction

The Indian national state has consistently imagined the political temporality of climate change

through the lens of its identity as a post-colonial society. Throughout the 1980s and 1990s, this

temporality was past-oriented, linking the origins of climate change to the history of western

colonialism in India and throughout the Global South. This linkage was not unique to India's

imaginaries but common to many other developing states', each based on their respective

histories of imposed political, economic, and social inequality by the west (Rajan, 1997; Friman,

2008).[12] The post-colonial State's reliance on a historical imaginary to justify its politics of the

present exemplifies Homi Bhabha's observation that the post-colonial subject exists in a

perpetual state of hybridity and ambivalence. India's climate politics reflect the way in which

colonial histories "constantly intrude on the present," driving post-colonial societies to

alternately mimic and mock ex-colonizing societies (Bhabha, 1994, 52). Prior to 2004, such a

historical intrusion came in the form of as the State's suspicion of using climate science as a

legitimate body of knowledge with which to temporally orient itself.

This chapter aims to show that this same ambivalence was a factor, following 2004, in

the Indian government's increasing acceptance of climate science as a legitimate reference upon

which to ground its climate politics. I argue that India's ambivalent relationship with climate

science over the past 30 years began with early suspicions of climate science primarily because

of their association with globalized, synchronic imaginaries articulated early on by the

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[12] Small island states and oil-producing states have long acted according to different temporalities of threat than the
majority of other developing states.

Intergovernmental Panel on Climate Change (IPCC) and developed states. The Indian government treated the production and use of climate science with suspicion in the formative years of the UN Framework Convention on Climate Change (UNFCCC). As Pettenger argues, Indian political and scientific actors have always assumed that 'the perceived material reality of climate change is defined in social settings by scientists and policymakers' (2004, p. 4). After 2004, and accelerating after 2010, the state turned to embracing climate science as a legitimate body of knowledge, as long as it is produced domestically and models existing and future climatic conditions specific to India.

I trace the temporal imaginaries involved in the co-production of climate change in India as a scientific *and* political issue. I argue that just as the IPCC's scientific representations of climate change as a "global" phenomenon oriented developed states towards articulating globalized, synchronic climate futures, the formation of two domestic climate scientific institutions represent the Indian government's move to articulating state-specific, diachronic climate futures. In turn, India uses these projected futures, instead of claims rooted in its colonial past, to resist efforts by developed states to synchronize the temporalities of climate change. This chapter outlines how the government's shift from articulating the colonial origins of climate change to articulating its potential futures as the basis for orienting its political imaginaries of the present day is rooted in the ambivalent history that Indian actors' views of science have played in affirming or challenging nationalist imaginaries.

This chapter analyzes India's temporal imaginary of climate futures as articulated in three documents: two are the first climate assessment reports produced by domestic scientific institutions and solely analyze the climate dynamics of India and the South Asia region; and one assessment of the country's climate modelling capabilities. Notably different from the past-

oriented imaginaries the national government had articulated up to this point, these three reports imagine climate change as a significant and near-term threat to the country; and they use observations of existing climate conditions to construct potential climate futures. By "climate science," I mean observations of *existing* climate dynamics as well as models of a range of *potential* climate futures. But these futures are not purely scientific products. Rather, as I will show, the futures modeled in the documents are hybrids; they simultaneously embed and are embedded in past and present discourses of Indian domestic and politics (Bhabha, 1994; Jasanoff, 2004, p.2). I treat the constructed climate futures expressed in the three reports as co-productions of scientific and political discourses (Jasanoff, 2004). Together, the integration of scientific and political discourses initiated a distinct shift from the national government's earlier temporal imaginary of climate change that largely used the past to justify its positions. Later, modeled futures are articulated as events that the Indian government can either ensure or avert through decisions made in the present.

The two reports under analysis were produced by two scientific research institutions operating under the Indian national government's auspices. The first report, 'Climate Change & India: A 4x4 Assessment' (hereafter known as "4x4") was authored by the Indian Network for Climate Change Assessment (INCCA), itself formed under the auspices of the Ministry of Environment and Forests (MEF) in 2009. According to the Ministry, the INCCA was formed in direct response to the threatening futures modeled by the IPCC 4th Assessment Report (MEF 2009, p. 7). It was charged with producing scientific data and policy recommendations specific to India, as an alternative to the globalized, non-region-specific futures offered by the IPCC. In particular it was tasked to include research on the drivers and implications of climate change and on how to build the state's resilience to climate shifts (MEF 2009; '4x4' 2010, p. 11). Jairam

Ramesh, then Minister of Environment and Forest, described the 4x4 Report as, 'the first time that such a comprehensive, long-term assessment has been undertaken based on rigorous scientific analysis' (4x4, 2010, p. 9). The second report, 'Climate Change Over India' ('CCOI'), was published in 2017 by the Centre of Climate Change Research (CCCR). In contrast to the INCCA's broad mandate, the CCCR was tasked solely with developing 'new climate modelling capabilities in India and South Asia,' i.e. with improving the state's ability to project likely climate futures (2017, p. 1).

The two reports are imbued with scientific and political discourses, especially when they link the potential futures of climate change with the temporality of the state's national development goals: "there is need to balance social and economic imperatives with concerns on the front of climate variability and change" (CCCR, 2017, p. 2). I will show how each draws "upon a history of contested knowledge claims and of articulations of epistemic and political sovereignty" in order to construct, for the first time, India-specific climate futures (Mahony 2014, 120).

As texts produced by state scientific institutions, the conclusions reached in each of these documents represent the government's scientific and political views of climate change in 2010 and 2017 respectively. In order to detect how the temporal imaginaries in the reports ambivalently affirm, reform, and dismiss boundaries between scientific knowledge and political concerns, the next section begins by tracing the different scales at which climate science has modeled the spatio-temporalities of 'climate' and climate change. The following section will then return to analyzing India's positions on climate science between the UNFCCC's ratification in 1994 and the first scientific report's publication in 2010. Finally, I will turn to critically analyzing the co-produced, future-oriented temporalities in the three documents.

2. Temporal and Spatial Scales in Climate Science

The Indian government's temporal reorientation was preceded by the spatial and temporal rescaling of the concept of "climate" in the scientific literature. Prior to its recognition as a legitimate international political issue in the 1980s, the "climate" had already been a hotly contested concept among scientists for several decades. For the first half of the 20th century, climatology was a subfield within meteorology focused on describing "the mean and variability of relevant meteorological quantities calculated over a period of time ranging from a few decades to (eventually) millennia" (Hulme, 2016, p. 34). In other words, the earliest scientific representations of the climate were constructed based on past physical dynamics, constituting larger-scale representations of the climate as simply the statistical aggregations of local weather patterns (Edwards, 2001; Miller, 2004, 52).

The most significant reason for the scientific conceptualization of the "climate" as a transnational phenomenon whose potential future dynamics could and should be predicted, was the introduction of computer-derived models in the mid-1950s. Until this time, human beings carried out forecasting equations, with some taking the same amount of time to calculate as the forecast's intended timespan (Edwards, 2001). Indeed, when the first computer weather forecast models were run in 1954, their efficiency made clear that much more data would be needed to refine weather, and later climate, forecasts.   It was also clear that vast amounts of data would be needed to complete complex equations, especially data collected from outside a single state's borders. Since the accuracy of climate models depends on a large body of data that is uniformly collected so as to ensure proper comparison, and since increasing evidence of anthropogenic climate change pushed scientists towards forecasting the most likely paths it would take, transnational climate science networks began to form in the 1970s (Miller 2004).

In this way, predicting the likely future dynamics of planetary climate dynamics with computer models became the primary purpose of climatology. However, constructing past, present, and future representations of the climate is imbricated with pre-existing social and political dimensions: the translation of raw data into accessible and useful information, involving "scientific expertise, technological systems, political influence, economic interests, mass media, and cultural reception" (Edwards, 2010, p. 8). And as a matter of translation and social construction, modeling climate data involves a wide range of interventions by scientists in terms of setting initial conditions and boundaries of the system under scrutiny. This means scientists decide which variables to include or exclude, including choosing the beginning point of the period, particular atmospheric and oceanic dynamic patterns, the geographical location, and whether to treat certain aspects of the system as pre-determined or dynamic (Frigg et al., 2015). Indeed, Oreskes *et al.* argue that scientific models should be thought more as heuristic tools that interpret a wide range of phenomena, rather than as confirmatory representations that give objective and holistic pictures of climatic dynamics (1994). Rather than be measured by the accuracy of the projections offered, climate models should rather be considered a legitimate and in some cases, authoritative, interpretation of the physical nature of climate change into frameworks meaningful to humans (Hastrup 2013).

In addition to constructing new future temporalities, scientific models also expanded the spatialities with which they framed "climate," scaling up from local and regional representations to hemispheric and global representations by 1970 (Edwards, 2010, p. 14). Indeed, as Miller points out, the world's first formal study of anthropogenic climate change in 1966 articulated that its potential effects would be local in nature, not global (ibid, p. 53; NRC, 1966). As late as 1983, the U.S. National Academy of Sciences asserted that climate change should "be viewed as

a problem of changes in local environmental factors - rainfall, river flow, sea level..." (NRC, 1983, 3). But again, climate scientists, not policymakers, eventually consolidated regional framings of the climate into a global picture. The ability to tie together larger pieces of data meant a shift towards "an understanding of climate as a physical *global* system" (Hulme, 2016, p. 34). By the 1980s, general circulation models (GCMs) were developed, integrating atmospheric, oceanic, land and ice surface dynamics at hemispheric and planetary scales. Increasingly sophisticated climate models resulted in a clearer picture of rapidly shifting climate dynamics and of the drivers behind them, but at a global scale. Each of the IPCC's first four Assessment Reports made increasingly confident, nuanced, and quantified judgments of changes in average temperatures, other physical dynamics, and projections for future changes (1990, 1995, 2001, 2007). The increasing confidence of these reports in observing existing changes led policymakers and states during this period to increasingly concern themselves with anticipating and responding to worst-case climate futures (Edwards, 2001).

As will be discussed in the next section, developing states were largely absent from the early years of scientific research on climate change. The absence of developing state voices, usually due to financial constraints and limited scientific capabilities, also fueled suspicion of this body of research validity among political and scientific actors in developing states. However, between the publication of the IPCC's 3rd and 4th Assessment Reports in 2000 and 2007, developing states, India included, changed their previous positions and started articulating climate science as a legitimate discourse. From the start, developing states treated climate science as a body of knowledge co-produced through political interests, norms, and assumptions. As Mick Hulme argues,

rather than climate being understood by someone and from somewhere, this

scientific conception of a systemic and mathematically simulated global climate offered a view of climate for everyone but from nowhere. Climatic knowledge became global knowledge. […] It erased geographical and cultural differences; the scale of meaningful climatic analysis was henceforth to be global (2016, p. 35).

For the majority of the IPCC's history, India has treated scientific representations of climate change as indelibly linked to framing climate change as a global, synchronic phenomenon. Indian government actors viewed climate science as either incapable or unwilling to speak to the specific climate futures facing sub-continental regions like India. In the next section I argue that as modeling capabilities advanced, the Indian state started to view investing both funding and legitimacy into domestic climate science initiatives as a relevant interest. And thus, climate futures, rather than the historical origins of climate change, began to take center stage as political objects.

3. The Indian Government's Treatment of Climate Science

India's suspicion of scientific, planetary-scale representations of climate change is predicated on the ambivalent orientation the state has had towards science even prior to Independence. Science was used by the British to secure as well as justify the colonial project, as a tool of domination. However, following Independence, state actors also viewed science as the one sure way the country could *become* modern. This historically ambivalent relationship meant that Indian actors treated planetary or globalized representations of climate change as biased, resulting from the convergence of scientific and political discourses produced largely by developed states. Indian actors see this co-production as marked by "the tangling of [the] epistemic and normative," a widely reported characteristic of environmental and scientific knowledge-making in India (Elzinga 1993; Rajan,1997; Mahony 2014, 115). In other words, India has treated climate science as a form of knowledge inseparable from the influence of power and political positions.

The predominance of the view among Indian actors that science is "politics by other means" is clear in the earliest framings of the environmental challenges to the country. The earliest example of a nationalist, scientific framing of environmental issues was the Centre for Science and Environment's (CSE's), *The State of India's Environment: A Citizens' Report* (1982). The Editors' introduction speaks to two reasons for the urgency of Report's assessment: "a growing popular awareness of the environmental crisis engulfing India as well as a strong desire amongst people across the country to know more about what is happening in other parts of the country and to share information available with them" (1982, p. *v*). A little later, the report claims that it "presents what these figures spell for the daily lives of the people" (ibid, p. *vi*). The environment here is treated as an issue that connects the nation's various regions and peoples into a cohesive whole, to imagine the nation as a singular agent facing common issues (Anderson 1983).

The national government displayed little interest in the beginning of the international environmental political regime. India, along with most developing states, largely avoided active participation in the ozone depletion regime since 1983, framing it as a problem primarily caused by and most likely to affect developed states (Rajan 1997, 59-65). Indian scientists joined politicians in their reticence, citing the paucity of data linking ozone depletion and India, either in origin or effect. The 'insufficient proof [...] available of a real threat to India,' coupled with the sense that the North was largely responsible for CFC production and consumption, meant Indian state and scientific actors participated little in the process (ibid, 61). Nevertheless, India's resistance to signing and ratifying the negotiations' final product, the Montreal Protocol, eased following the refinement of ozone depletion models that framed the issue "as a genuinely global problem which ultimately had to be solved through global cooperation" (ibid, 66). Despite this acknowledgment of the Montreal Protocol, India and China successfully negotiated mitigation

timeframes favorable to them, ones that would allow them to emit CFCs longer than Northern states. After the inclusion of these and several other amendments, India ratified the Montreal Protocol in June 1992, just prior to its signing the UNFCCC at the 1992 Rio Summit.

In contrast to its lack of interest in the ozone depletion regime, India turned into a significant player during the two years of the Intergovernmental Negotiating Committee negotiations that sought to produce what would become the UNFCCC text. India grounded its positions with political, not scientific, justifications, especially for distributing state responsibility according to historical emissions of greenhouse gases. But as its political engagement deepened with its hosting the 1990 Conference on Select Developing States and drafting a proposed UNFCCC final text, the Indian government continued to contest the relevance and legitimacy of climate science produced in developed states (Agarwal & Narain, 1991).

A major factor contributing to the Indian government's suspicion of climate science's validity throughout the 1980s and 1990s was the lack of developing states' participation in international climate scientific institutions like the IPCC. This lack of developing state participation was noted in 1989 and 1990 by both developing countries (the Conference of Select Developing States hosted by India) and the IPCC (its First Assessment Report outlined the impediments to developing country participation). The reasons for the lack included insufficient communication between scientists in the North and South, and limited financial and institutional support in developing countries to engage in climate research (Special Report 1990; Rajan 1997, pp. 106-109; Miller 2004). The Indian government in particular emphasized the lack of Indian scientists contributing to compiling the IPCC Assessment Reports and relatively low computer capacity for contributing to the development of global climate models (Kandlikar & Sagar, 1997;

Biermann, 2000; Ramachandran, 2012). The lack of Indian and other developing state

contributions to the first three Assessment Reports can be partially explained due to those states'

inability to fund rigorous climate observations with satellite and other sensor data, the

supercomputers necessary to construct refined climate models, or for scientists to even travel to

international meetings. But Indian policymakers and scientists throughout the 1990s and early

2000s also exhibited a distinct lack of interest in the IPCC process, taking the lack of refined

regional climate models to mean that climate change remained an uncertain, abstract threat (,

2014, 115-116).

Without internally produced scientific representations of climate change to influence its

imaginaries, the Indian government's politics at the UNFCCC during the 1990s "reflected

traditional concerns about sovereignty, equity and the importance of economic development"

(Rajan, 1997, p. 104). Developing and developed states continued to argue over how to balance

these seemingly competing principles of equity between states, and individual state sovereignty

both prior and following the 1997 signing of the Kyoto Protocol (Rajan 1997; Kandlikar & Sagar

1997; Biermann 2000). Four events in particular exemplify the Indian government's ongoing

suspicion of globalized representations of climate change produced by the IPCC through 2004.

The first event was Agarwal and Narain's report critiquing the conclusions on state

emissions cut articulated in the World Resources Institute (WRI) 1991 report. Agarwal and

Narain critiqued the WRI for its methodologies and subsequent conclusions on all states bring

held to emissions cuts. They argued the report relied on figures limited to present-day

greenhouse gas emission for developed countries like the U.S. and for rapidly developing states

like India, China and Brazil (WRI 1990, pp. 5-23). Agarwal & Narain challenged the

appropriateness of the WRI's presentist calculations, arguing they should take a more expansive

timeline into account, claiming the report to be "based less on science and more on politically motivated and mathematical jugglery" (1991, p. 3). They also criticized the WRI's valuation of carbon dioxide emissions, which did not distinguish between the "survival" emissions produced by developing states and the 'luxury' emissions produced by developed state. Agarwal & Narain are thus attempting to make a political argument using statistical and scientific knowledge, speaking to Hulme's observation that "scientific predictions must be supplanted with imagination for significance" (2017, 108).

The second event, in 1995, saw an early draft of the IPCC's Third Assessment Report "Summary for Policymakers" use two different "values of statistical life" for estimating the societal cost of climate change (IPCC, 1996, ch. 6). These values are used to estimate the financial costs of climate change impacts based on different, potential climate futures (Pearce, 1995). The Summary estimated the statistical value of a person's life in a developed state at fifteen times the value of someone living in a developing state (IPCC, 1996, p. 348). The resulting projections estimated the developed world, with only a fraction of the world's total population, was likely to suffer twice the total damage from climate change than developing societies would.

One of the 2nd Assessment Report's lead authors, Michael Grubb, identified a tension between providing states individual projections of financial costs upon which they can make domestic political decisions and the need to value all human life equally (Grubb 2005). In a Working Group plenary meeting held just prior to the UNFCCC's 1st Conference of the Party (COP) in Berlin, India convinced a large bloc of developing states to reject the Summary draft just prior to the first UNFCCC COP in 1995 Berlin (Rajan 1997). Then Indian Environment and Forest Minister, Kamal Nath, wrote to other developing state parties arguing the vast difference

in estimated value proved 'the bias which underpins [the IPCC] assessment intended to provide the basis of policy discussions at the COP (Nath, 1995).

The third incident during this period revolved around the UNFCCC's deliberations on operationalizing the principle of historical responsibility as argued for by developing states, Brazil and India most prominently. The controversy highlighted the difference in justifications used by developing and developed states at this time: developed states articulated climate change as a bio-physical phenomenon, which clashed with the socio-economic framings articulated by developing states. Briefly told, in 1995, Brazil offered a specific proposal for recognizing historical responsibility in determining the differentiation of greenhouse gas emission reduction responsibilities between developing and developed states. The "Brazilian Proposal" envisaged a framework of historical responsibility to be operationalized in the legally binding Kyoto Protocol. The responsibilities for developed states would be based on rates of past emissions along with their present-day effects. However, "following referral to the Subsidiary Body for Scientific and Technological Advice (SBSTA), discussion soon became confined to technical calculations"(Friman, 2007; Friman & Linner, 2008). Developed states focused solely on how to scientifically determine states' historical contributions to emissions. The difficulty of doing so allowed developed states to continue to keep historical responsibility from being realized and resulted in Brazil dropping its Proposal by 2005 (Friman 2007). In other words, a political argument based on the post-colonial experience (historical responsibility) was de-legitimized through scientific and technical obfuscation of the underlying justifications.[13]

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[13] By sidelining the issue of equity articulated in the Brazilian Proposal in favor of determining the methodologies and calculations that would gain acceptance by all state Parties of the UNFCCC. However, by COP 6 in 2000 at the Hague, little work had been done at the Subsidiary Body of Scientific and Technological Advice (SBSTA) that could be reported back to the COP. Debates around the calculations continued through 2005, including around the need to incorporate all GHGs, not just carbon emissions, and the difficulty of accurate historical data prior to 1990

The third prominent controversy that marked India's suspicion of IPCC science was the 4th Assessment Report's projection of the total melting of Himalayan glaciers as highly likely by 2035 (IPCC, 2007, p. 493). It later emerged that the statement had originated in "gray literature," i.e. non-peer-reviewed texts, and had simply not been challenged in the Report's peer review process (Banerjee & Collins, 2010). The controversy led then Minister of Environment and Forests, Jairam Ramesh, to commission a state-sponsored review of existing glacier science. This report, in contrast, concluded that estimates for glacial melting were mixed and therefore refuted the IPCC's 2030s estimate for the glaciers' disappearance (Raina, 2009).

In each of these events, India responded with critiques of the underlying biases against the realities and experiences of developing states they took as central to climate scientific knowledge (Rajan 1997; Biermann 2002). The critiques highlighted such biases, but they resulted in a lack of focus on the likely climate futures developing states would face. In comparison to the growing sophistication of models that represented existing and potential climatic dynamics at the global scale, climatic representations of local and regional scales remained in their infancy. India played a key role in addressing this discrepancy. Since, "the effects of climate change are expected to be greatest in the developing world," the regionalization of climate change modeling and science was viewed as crucial to "narrowing gaps between current knowledge and policy-making needs" (CCOI, 2017, p. 143). The inability of global climate models (GCMs) to successfully simulate unique regional features, such as the monsoon, the Himalayas, and the dynamics of the Indian Ocean, was a significant challenge for

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(Friman, 2007, pp. 24-25). The "technical twist" away from the original political approach was an attempt to use a veneer of scientific knowledge in order to thwart the open contestation between parties of different interests and capacities, i.e. politics.

policymakers looking to scientific knowledges for guidance (CCOI, 2017, pp. 26-28; Mahony, 2014).

In response to these shortcomings, through the 1990s and early 2000s the Indian government largely relied on advice from Indian scientists rather than the IPCC's first three Assessment Reports (ARs) as its reference point at the UNFCCC (Rajan, 1997; Biermann, 2002). For the first half of the UNFCCC doubted the planetary climate futures constructed by the IPCC. In other words, prior to 2007, Indian actors critiqued the methodologies of the IPCC's data review process as illegitimate for analytically prioritizing temporalities of developing societies. Nevertheless, the increasing refinement of the science and projections of the IPCC's 3rd and 4th Assessment Reports (2001, 2007 respectively) and its specific recommendations for mitigation, invoked a sense of urgency for Indian policymakers (Raghunandan, 2012). As Raghunandan argues, even some Indian policymakers realized with the 4th AR "that the world was confronting not just climate change, but a climate *crisis*" (Raghunandan, 2012, p. 171); and for the first time, recommended specific mitigation trajectories. This sense of urgency, I argue, is reflected at least partly in the decision of the two India-specific climate assessments to include models for the 2030s, rather than solely for later in the century, essentially a shortening of the state's political temporality.

I will now turn to analyzing the state's initial moves in this direction through the two domestic climate reports produced by government-sponsored scientific institutions. I show how, after 2010, the national government accepted climate science as a legitimate epistemological reference point and consequently, oriented its temporal imaginary to the futures of climate change rather than its past.

3.1 Analysis of the Temporal Shift: Imagining Climate Change as a Future, Near-Term

Threat to India

The IPCC's Fourth Assessment Report indicated that the impact of human activities on climate

dynamics was unequivocal (2007, pp. 1-2). The 4th AR once and for all settled, at least

internationally, that climate change was linked to anthropogenic effects; the concern was now

one of the timing and magnitude of the abrupt changes in the climate anticipated in the future

over and above the continuous climate change occurring due to the continuous warming of the

atmosphere (MEF 2009, 7). The three Indian-produced climate assessment reports focus almost

entirely on representing climate change as a threat for India, not the world as a whole. Despite

the India-centric tone in all three reports, each references the global framing of climate change,

'a significant man-made global environmental challenge' and 'a major threat to the world'

respectively (2010, 11; 2017, 1). Further, the latter two express the need to produce data that

would be integrated into the 6th IPCC Assessment Report, due out in 2022. (CCOI, 2017, p. 30;

Dash et al. 2017, p. 185).

The first aspect of the climate imaginary outlined in these two reports is the extent to

which any scientific study of the climate by Indian scientific institutions should be guided by

nationalist political and economic concerns. For example, the "4x4" report's Forward, written

by then Environment and Forests Minister, Jairam Ramesh, outlines the necessity of developing

indigenous research and analysis capacities to understand "*our* glaciers, *our* monsoons," in

contrast to "external" and "global" assessments that "are not adequate to assess[ing] the impacts

and implications for India" (4x4 2010, 9; emphasis added). Ramesh's framing of the 4x4 report

echoes several facets of India's existing relationship with climate science. It is through

domesticating the process of creating climate knowledge, applying the principle of epistemic

sovereignty over how India comes to produce scientific knowledge about climate change as well as conceptualizing the climate science oriented towards the future of India's economy, sensitive sub-regions, and impacts on populations.

In the first report under analysis (2010), the eponymous "4x4" refers to the spatialized and economic framework used to assess the likely future effects of climate change on specific spatial regions (the Himalayan region, the Western Ghats, the Coastal Area, and the North-East region), and particular economic sectors (Agriculture, Water, Natural Ecosystems and Biodiversity, and Health). Of note here is the choice of regions and industries, an explicit blurring of epistemic analysis and normative concerns. "The choice of the sectors and regions is in conformity with the significance and importance of the climate sensitive sectors of the economy that cover the well being and livelihoods of the large population residing in these regions" (2010, 13). Mahony makes clear that the chosen regions do not correspond to traditional climatic zones, but rather represent regions of particular natural resource and wealth and vulnerability" (Mahony 2014,121). In this way, climate change is framed as a potentially significant threat to the resiliency of Indian political, economic, and agricultural systems. The "4x4" report frames climate science as a necessary body of knowledge for ensuring the political and economic security of the state and future generations.

> Climate change may alter the distribution and quality of India's natural resources and adversely affect the livelihoods of its people. With an economy closely tied to its natural resources such as agriculture, water, and forestry, India may face major threat because of the projected changes in climate (2010, p. 12).

Climate change is a serious issue for India, primarily due to its likely *economic* impact on resources and livelihoods.

The second report (2017) report also describes climate change research almost solely as a nationalist interest. It asserts that its author institution, the Centre of Climate Change Research, is "crucial" for minimizing the uncertainties in the scientific understanding of 'climate projections over the Indian region [...] particularly the Indian monsoon rainfall which is the lifeline of the country' (2017, p. 1). These uncertainties "pose huge limitations in policy making for meeting the demands of adaptation to climate change" (ibid). Further, it centers the majority of its analysis on existing and potential changes to the summer monsoon, upon which "the survival of the large population as well as the economy of India depends" (2017, p. 4). Finally, the CCOI report's concluding section speaks to the need of improving earth systems model by improving data on the dynamics of the South Asian monsoon (2017, p. 31). Dash et al. also speaks to the importance of developing accurate regional climate models (2018).

Together, the two climate reports and the Dash et al. assessment, prioritize the state's construction of potential climate futures. Dash et al., speak to the difficulties of accurately modelling climate below the global scale (Dash et al., 2018). The CCOI report and Dash et al. both note that much uncertainty still remains for making detailed regional climate models: "Future climate projections over the Indian region based on the IPCC models, particularly the Indian monsoon rainfall which is the lifeline of the country, exhibit wide variations and uncertainties" (CCOI, 2017). Dash et al. also refers to developing accurate, India-specific climate models as a matter of national importance: 'Indian scientists have a great responsibility to develop a suitable climate model for India" and "The need of the hour demands a community-based climate model customized for the Indian region' (2017, p. 183). It also, explicitly, attributes the lack of India-specific climate science to the absence of domestic-produced data. "Large biases over India may be attributed to many factors; perhaps the most important factor is

that most, if not all, models have been developed in other countries and simulation of Indian

climate is not their leading priority" (2017, p. 185). In other words, only Indian scientists should

be relied on to produce India-specific climate futures.

For its part, the 2010 report begins with a critique of the IPCC's 4th Assessment Report's

lack of detail in modelling regional climate dynamics within global representations:

> The state of knowledge available at the global level is at the continental level and the
> details at the regional and sub-regional levels are rather inadequate. Wide-ranging
> implications and adverse impacts due to climate change have been projected on
> developing countries. The assessment emphasizes the need for more comprehensive
> studies and information at the regional, national, and sub-national levels and at climate
> sensitive regions wherein the climate of a region is locally driven by topography,
> location, its proximity of the area to the sea and oceans. (INCCA, 2010, p. 11)

Compared to global climate models that have a maximum resolution of 250-300 km, i.e. the

smallest area at which models can simulate existing climate dynamics and project future ones,,

the then-recent development of regional climate models (RCMs) significantly downscaled the

available resolution to 50 km x 50 km (CCOI, 2017, pp. 26-28). The 4x4 report articulates

projections for climate change in the 2030s, both globally and on India specifically, as well as

the "nature of the models" themselves (2017, p. 25). The 2017 report also highlights the

temporal and spatial uncertainty inherent to making global and regional climate projections:

> Although meteorological data compiled over the past century suggest that earth is
> warming, there are significant differences at regional levels. Climate variations and
> change, caused by external forcings may be partly predictably, particularly on the large
> (e.g. continental, global) spatial scales. Because human activities, such as the
> emission of greenhouse gases or land-use change, do result   in external forcing, it is
> believed that the large-scale aspects of human-induced climate change are also partly
> predictable. However, the ability to actually do so is limited because we cannot
> accurately predict population change, economic policy, technological development,
> and other relevant characteristics. In practice, therefore, one has to rely on carefully
> constructed scenarios of human behaviour and determine climate projections on the
> basis of such scenarios (ibid).

Counterintuitively, it is easier to project climate trends at large spatial scales than at smaller ones; the deep, and complicated relationship between humans and their environment becomes clearer the more one zooms in.   The course of human activities, whether economic, social, cultural, or political, nor their likely effects on and from an increasingly dynamic climate. The attempt to assess climate change from a regional, rather than a global, point of view, necessarily involves temporal and spatial localization. Yet, the ability to make future projections involves the entangling of temporal and spatial phenomena from outside India's borders.

Because they are able to rely on refined regional climate models, both the 2010 and 2017 reports frame climate change as a likely significant threat to India. The 2010 report represents climate change as a fairly significant threat to the country, one that had already started to manifest itself. It also observes significant climatic changes in annual mean temperature (a 0.51ºC rise between 1901-2007), increasing trends of monsoon rainfall increases (22 regions) and decreases (14 regions), a marked rise in one-day extreme rainfall events (2010, pp. 29, 33).[14] In terms of modelling potential future all-India averages, using the 1970s as a baseline, by the 2030s the 4x4 report projects a 3-7% increase in the average monsoon rainfall, a 1.7-2C rise in temperature, while the frequency of individual rainy days will decrease in most parts of the country (2010, pp. 36, 42, 129-135). Over the three RCP scenarios, the annual mean temperature by the 2030s is projected to increase .96C-1.61C; by the 2080s, the projected increase is 1.08C-4.65C (2017, ibid, p. 16). The annual mean precipitation rise by the 2030s is 0.04-0.30 mm/day; by the 2080s, .01-.87mm/day (2010, p. 20). While these may not seem like significant shifts, the

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[14] Though a 0.51ºC rise may not seem very drastic, the danger unique to anthropogenic climate change is the speed with which the changes are occurring. As a matter of comparison, it took 7,000 years for the average global temperature to rise 4-5ºC between the end of the Pleistocene (the last ice age) 18,000 years ago and the onset of the Holocene, the geologic epoch in which sedentary agricultural societies first developed (Royal Society 2018).

Assessment predicts that they would significantly impact agricultural capacity, indicating an overall reduction in many crops and increased rates of malaria and malnutrition (2010, pp. 134, 137-139).

Finally, both reports define climate change as a *near-term* threat, made clear through the authors' choice of timeframes with which to model potential futures. Notably, both reports project climate futures for the 2030s, with the 2017 report also modeling for the decades 2045-2055 and 2075-2085. Modeling for the 2030s is a near-term period chosen as compared to other climate assessment reports. Choosing the 2030s as the projected decade is notable, since the majority of scenarios in climate reports are made for the 2050s and beyond (Hulme & Dessai, 2008). Choosing the 2030s was a way to reclaim the decade through a *regionalized*, epistemic framework was intended as a rebuke of the inclusion of the projections for the Himalayan glaciers completely melting by 2035. In summary, it was a way to "reclaim" the erroneous projections for the decade by the IPCC (Mahony 2014, 121).

Finally, there is also a sense of urgency that is not evident in previous government documents. In the Foreword to the 4x4, Minister Ramesh writes that "no country in the world is as vulnerable, on so many dimensions, to climate change as India" (4x4, 2010). The increasingly specific and dire projections of climate change effects modeled in the early and mid-2000s affected the national government's estimate of how much time the country had before widespread effects would be experienced by domestically. Following the urgency evident in the IPCC's 4th Assessment Report and then their own assessment, the government's imaginary of a climate future shortened significantly. In other words, one of the primary drivers for the government to focus on the fairly close 2030s was the sense that time is running out for India.

4. Conclusion: Turning Towards Urgent, National Climate Futures

The twin development of climate science and the international climate governance regime is a vital area of concern for those interested in potential futures of global governance. As Hulme concludes,

> All knowledge of climate is also political. Or, to be more precise, the forms of climatic knowledge which become authoritative and trusted in a given society are a result of political processes. Different political actors, shaped by different cosmologies, ideologies and values, will hold different views as to what counts as valid evidence upon which climatic knowledge claims are based (2015, 31).

This chapter demonstrates that India has always treated scientific climate knowledge as political, as one of several, potentially legitimate discourses through which to imbue the physical phenomenon of climate change with meaning. In tracing the Indian government's construction of temporal imaginaries of climate change, I showed the remarkable shift in the imaginaries' orientation away from using the past as the justification for its present-day politics and towards constructing potential futures. The Indian state has granted climate science legitimacy as one discourse in climate policy development, but *only* when it speaks from nationalist viewpoint. This normative shift is joined by an epistemological one, namely a downscaling of models from global and continental to national and sub-national representations of the phenomenon. Furthermore, an important part of this spatial re-scaling has been the projection of short-term (2030s) climate futures, rather than mid- or long-term models (2050-2100).

This chapter has explored three changes over the history of India's ambivalent relationship with climate science. First, as the country's universities and research networks increasingly produce climate science, the State moved from treating it with suspicion to embracing it as a valid source of knowledge on which to base its rhetoric and policymaking. Second, the refinement and subsequent use of regional climate models (RCMs) has resulted in the discursive rescaling of climate change from a problem of imagining potential *global* futures

to *national* ones. Third, the dire picture of likely climate futures painted scientists has provided

motivation for shifting the State's political imaginary on climate change from the past to the

future. India continues to contest IPCC's claim to final authority in interpreting what climate

change is and how societies can and should prepare.

What are the political implications of these shifts? The choice of shortened timeframes

with which to project Indian climate futures represents a reversal of Fabian's denial of

coevalness, by which the West denied the colonized and post-colonized the ability to share the

political and social time of Euro-American modernity (1983). In terms of the co-production of

climate science and politics, it is now the post-colony that resists being integrated into the

uniform temporality implied by *global* climate change. Instead, India is attempting to project a

nationalized climate future-time, separate but still connected to the multiple times and spaces of

global climate change. In a way, the shifts in scientific frameworks of the climate represent a

full circle: first viewed as a patchwork of local and regional weather patterns, then as a global

problem, and now, back to a more regional and national framing. Those interested in analyzing

the transnational politics of climate change should acknowledge the role of post-colonial

temporal imaginaries in constituting the present. The next chapter analyzes how India deployed

this post-colonial identity in anticipating certain climate futures.

Ch. 4 - From Securing Pasts to Constructing Futures: the Rise of Anticipatory Temporalities in India's Climate Politics, 2004-2018

> I don't wish to embrace Walter Benjamin's tired "Angel of History" trope, but there is something right in the position he attributed to the angel: it looks backward and not ahead. [...] The ecological crisis is nothing but the sudden turning around of someone who had actually never before looked into the future, so busy was He extricating Himself from a horrible past. (Latour 2010: 485-6)

1. Introduction

As discussed in chapter 1, Benjamin's Angel exemplifies a synchronic account of world history and world time, in which "he sees one single catastrophe" (Benjamin 1955[1968], 256). Latour's interpretation of the Angel as humanity coming to terms with the new world(s) being formed out of the "ecological crisis," after being preoccupied with the horrors of self-inflicted human misery, is apt. The Angel's turn to an ecological future speaks to this chapter's focus, namely the Indian state's change in its temporal imaginary of climate change from past to future. Just as the horrors of the past of human violence prevent the Angel from seeing the possibly greater, non-human threats that lay ahead, I argue that between 2004-2018, India turned from rooting its climate politics in its colonial past to rooting them in anticipated climate futures. In turn, this temporal shift enabled the State's increasing acceptance of responsibility for adaptation and mitigation efforts, rather than maintain the argument of developed states' historical responsibility.

Chapter 3 explored how the State's acceptance of climate data from the Intergovernmental Panel on Climate Change (IPCC), the Indian Network on Climate Change Assessment (INCCA), and the Centre for Climate Change Research (CCCR) initiated a temporal shift among Indian scientific and political actors from past to future. This chapter continues to examine the political dimension of this shift, namely the national government articulation of

modeled climate futures as objects upon which to make political decisions. The most significant

changes in India's interventions at the UN Framework on Climate Change (UNFCCC) after 2004

were (1) the progressive abandonment of the principle of historical responsibility, and (2) the

acceptance for the first time of commitments to mitigate carbon emissions and adapt society and

infrastructure to new climate. This change to what had been a critical part of the government's

international climate politics for two decades highlights the extent to which changes in India's

positions at the UNFCCC are linked to the co-production of climate change as a political and

scientific phenomenon.

1.2 Documents & Analytical Framework

In order to unearth the parameters of the State's temporal imaginaries at play during the years of

negotiations hammering out a successor treaty to the Kyoto Protocol between 2004 and 2015, I

analyze four documents authored to communicate the government's positions to the UNFCCC.

Three of the documents are communications to the UNFCCC secretariat, reports required of all

state parties and written by the Ministry of the Environment and Forests. One document was

authored by the Prime Minister's Council on Climate Change and laid out the state's policy

climate framework moving forward. Each of the documents, authored by government offices,

represent the state's official positions to domestic and international actors.

Table 4.1 – documents under analysis in ch. 4

Year	Text	Author
2004	First National Communication to the UNFCCC	Ministry of the Environment and Forests

2008	National Action Plan on Climate Change	Prime Minister's Council on Climate Change
2012	Second National Communication to the UNFCCC	Ministry of the Environment and Forests
2015	Intended Nationally Determined Contributions	Ministry of the Environment and Forests

Each document is analyzed along the same three analytical registers: the temporal orientation of the state to climate change as articulated in international political discourses; the framing of climate change as a *future* threat to the country; and the responsibilities the State indicated it was willing to commit to. Together, these three aspects outline the shifting parameters of the State's temporal imaginary between 2004-2018. In contrast to the previous chapters, here the documents are analyzed separately. This is because each document, spaced as they are at several year intervals, articulates a distinct step in the evolution of the state's temporal imaginary over the fourteen year period.

The next section begins with theorizing future-oriented State imaginaries that inculcate a politics based on preempting or anticipating the future. In this way, the future is made into an object of political-decision making. I go on to explore the State's temporal imaginaries between the 1994 ratification of the UNFCCC and 2004, which largely maintained the past-oriented parameters analyzed in chapter 2. The final section will analyze the shifting parameters of the State's future-oriented imaginary of climate change as articulated in the four documents the government communicated to the UNFCCC between 2004 and 2015.

2. From Scientific to Political Futures

Climate change simultaneously straddles multiple experienced and natural temporalities of past

and present, uncovered and constructed through scientific and political discourses (Markley

2016). The multiple times and temporalities embodied in climate change detach political actions

from direct, short-term, observable effects and so challenge traditional assumptions regarding the

the best form for a future-oriented politics. An example of this is the delay of several decades

between the emission of greenhouse gases and their effect on the physical dynamics of the

climate (IPCC 2001). In this way, the human temporal experience of the cause (cutting GHG

emissions drastically) is not congruent with the time necessary for observable changes in

physical dynamics of the climate (a decrease in average global temperature 30-40 years later).

Such differences between human and natural time are also manifested in the very different

speeds at which climate change is manifesting itself in different regions of the world. According

to the IPCC's 4th Assessment Report, the Arctic poles, much of Africa, and Asian river delta

regions like those in Bangladesh, have already experienced drastic shifts in their climatic norms

as compared to other regions. In this way, synchronic political narratives are just as inadequate

for imagining the present and future relationships between climate change and politics as they

are for imagining the History.

In chapter 1, I briefly discussed two frameworks useful for analyzing future-oriented

politics. Massumi's distinction between preventive and preemptive politics, and Stockdale's

notion of anticipatory politics, are useful ways of thinking through the novel politics of climate

futurity (2007, 2015). *Politics* has always involved the attempt to shape the future based on

perceptions of past and present events and experiences. In modernity, *preventive politics* has

been the primary orientation of nation-states, in which the future is unknowable only to the

extent that an actor has incomplete information (Massumi 2007). In contrast, when faced with

physical phenomena whose times and temporalities do not follow linear patterns of cause and effect, or whose futures remain fairly unpredictable, even with extensive amounts of information, actors like states engage in a *preemptive* politics. In a preemptive politics, states acknowledge the future as fundamentally unknowable, and so construct likely, potential, hoped, or feared futures as objects to make decisions about.

Similarly, Stockdale's notion of anticipatory politics argues that in the face of phenomena like climate change that preclude accurate future projections,

> we should be witnessing shifts in the political imaginary through which the governance of future uncertainty becomes identified as a vital imperative and political rationalities and interventions aimed at more actively controlling the unfolding of time itself are prioritized (Stockdale 2015, 28).

Since states are less able to govern according to risk, which requires precise calculations of future likelihoods, modeled futures are treated as real objects upon which to act, even while the inherent uncertainty is fully acknowledged.

As discussed in chapter 3, the two scientific institutions India created to produce climate models in the 2010s followed the lead of the IPCC and modeled various projections of future shifts specific to the Indian subcontinent. India's construction of probabilistic models of climate futures represents the state fulfilling the first part of Stockdale's hypothesis, that governing an unknowable future is likely to be a stated political aim. And in this way, future imaginaries of climate change are co-constructed through scientific and political discourses.

Recalling Oreskes's argument in ch. 3 to treat models as interpretations, not exact replications or confirmations, of the existing climate, a hallmark of a preemptive or anticipatory politics is the significant amount of information available with which to make decisions. However, paradoxically, this explosion in available information also makes political actors

conscious of the limitations of humanity accurately predicting the future. For Stockdale, Beck's

concept of "risk" is only partially useful for understanding how political rationalities are

constructed specifically to face a range of highly contingent futures.[15] Determining risk in

modern politics usually involves collecting information and perspectives from experts in order to

determine the most likely threats and the most likely to succeed solutions. In the face of

emerging crises like climate change, however, even the prodigious amount of scientific and

socio-political data gathered in recent years, owing to the immense complexity of the

phenomena, offer little certainty. The paradox is that scientists and policymakers for the first

time are aware of the limits to their knowledge. In the case of climate change, one "known-

unknown" one is the speed at which changes like glacier melting and temperature rise will occur.

Unknown also is the increasing likelihood of unpredictable feedback loops, changes initiated by

external, anthropogenic drivers like GHG emissions but not directly affected by anthropogenic

force.

As discussed in chapter 3, despite the explosion in scientific knowledge about current

climate conditions and likely future ones in recent years, there is still much uncertainty in

projecting its possible global and local effects. So states increasingly govern according to the

prevention of "anticipated "futures, futures imagined as catastrophic but with significant

scientific uncertainty (Stockdale 2015, 34; Ewald 2002, 283-84). An anticipatory politics is

marked by agents who are motivated to make decisions in the present in the absence of thorough

knowledge, in order to forestall certain futures (Stockdale 2015, 34).   Notably, Stockdale's

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[15] World risk society is "characterized by the erosion of our ability to control the unfolding of the future to an extent that affords us an adequate degree of ontological certainty in the present, and exemplified by such inherently global problems such as climate change, financial crises, and transnational terrorism - suggests that time in general, and the irruptive contingency of the future in particular, have become discursively framed as pressing problems that must be actively addressed through political channels" (quoted from Stockdale 2016, 3; Beck 1992).

articulation of anticipatory politics resonates with the precautionary principle, one developed in modern environmental politics, and one at the foundation of the UNFCCC text: "where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (United Nations 1992). A preemptive, or anticipatory, imaginary of climate change has been an important element of the international climate governance regime from the beginning.

Preemptive and anticipatory governance rationalities represent a rupture between "empirically based knowledge and an actionable decision" (Stockdale 35). In this way, actors need only construct plausible scenarios in order to justify policies. This in turn means that the legitimacy of the decision rests not on a pragmatic consideration of certainty and risk, but rather on the sovereign's "accepted construction of the future," i.e. the State's temporal imaginary (ibid 36). Since climate change is uniquely constituted by hybridic forces of human and non-human agency, the processes around the sovereign state's conscious decision to prioritize specific constructions of the future should be explored. The shift in India's temporal imaginary from past to future was predicated on normative concerns like its reputation, mostly among northern and small island states, as a block to building binding, global frameworks. The shift was also predicated on the acknowledgement of existing and likely changes in the physical climate. The history below explores the normative and epistemic shifts involved in India actively anticipating climate futures.

Beginning in 2004, the Indian state's temporal imaginary of the present, as articulated in four communications with the UNFCCC, shifted from a past orientation to a future one. The government moved away from explicitly linking the history of colonialism to the manifestation of climate change. Two other narratives of the past are invoked instead. First, the national

imperative, development, implicitly refers to a past originating in the country's Independence in 1947. Second, by 2015, India's temporal imaginary began to rely on narratives of the usefulness of its ancient history and religious roots in dealing with present-day ecological crisis. The synthesis of these two Histories, one ancient, one modern, are used to support the government's new prioritization of potentially catastrophic futures as the primary objects of its climate politics. The next section takes a step back and explores India's imaginaries and interventions at the UNFCCC between its 1994 ratification and 2004, the year in which the first document I analyze was published.

3. India Maintains Past-Oriented Temporal Imaginary of Climate Change (1994-2004)

As mentioned in chapter 2, India and the majority of most other developing states, were largely satisfied with the final text of the UNFCCC (Rajan 1997). India in particular championed the differentiation of responsibilities between developing and developed states through the principles of equity and common but differentiated responsibilities (CBDR). Historical responsibility was acknowledged but not operationalized, failing to act as the primary framework for binding actions on developed states. Differentiation overall was highly emphasized throughout the UNFCCC text, as discussed in ch. 2, between two categories, developing and developed states. The UNFCCC directed developed states toward providing "new and additional financial resources" to assist developing states in reaching their emission reductions obligations, including national GHG emissions inventories (UNFCCC, 1992; Rajan 1997). This meant to some extent that developed states were responsible for the progress developing states made towards their obligations. On the other side, however, many developing states, India included, thought the North's historical and primary responsibility was not emphasized strongly enough, nor linked definitively enough to real mitigation efforts or financial assistance.

India's three primary goals in the immediate years following the UNFCCC's ratification were to solidify and operationalize the principle of historical responsibility, avoid legally binding commitments on itself and by extension other developing states, and obtain financial and technological assistance from developed states (Sengupta 2012). The avoidance of binding commitments on developing states (non-Annex parties), even including reviews of national policies by the UNFCCC secretariat, was largely viewed as successful. And for at least the first few years following the UNFCCC ratification, India treated its participation in the international climate governance regime as an important part of the more encompassing South-North politics, rather than on climate change itself. Rajan argues that, according to confidential government sources, there was little consideration given by India's negotiating teams nor New Delhi "to the success the framework convention might have in tackling the threats posed by climate change, showing that climate change was not seen by Indian policy makers as a pressing environmental issue in the short term" (Rajan 1997, 151; also Sengupta 2012). Ultimately, as Sengupta argues, "India's principal objective in the entire post-UNFCCC negotiations on climate change has been to defend this differentiated architecture of the climate regime," which, in its view, included efforts to prevent any new commitments placed on it and other developing states (2012, 107).

During the second half of the 1990s, action at the UNFCCC centered around the efforts to build a legally binding protocol that would achieve the goal, established in Article 2, to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" beyond the year 2000 timeframe established in the original text (UNFCCC 1992, Sengupta 2012). The political debates at the first

Conference of the Parties (COP)[16] at Berlin in 1995 were divided almost completely along developing/developed state lines. The former favored the development of a legally binding commitment and mechanism for GHG emission reductions by developed states. India used its considerable influence among developing states to form the "Green Group," formed by 72 developing states that included the AOSIS group but not the Oil Producing & Exporting Countries (OPEC). Developed states, led by the United States, largely opposed any legally binding commitments made solely on developed states. It was only the European Union's last-minute siding with the Green Group that made the drafting of the Berlin Mandate possible. The Mandate required the Conference of the Parties (COPs) to build a legally-binding set of "targets and timetables" for developed states to operationalize Article 2. No commitments would be made incumbent on developing, non-Annex states. India along with most other developing states, continued to emphasize equity and the principle of common but differentiated responsibility (CBDR) as the principles that should guide the operationalization of the Convention.

The 3rd Conference of the Parities, held in 1997, resulted in the drafting of the Kyoto Protocol, legally binding developed states to reduce collective emissions by 5% below 1990 levels by a 2008-2012 commitment period (UNFCCC 1997, Article 3.1). The 4th-7th COPs all focused on developing mechanisms for implementing the Protocol concluding with the Marrakesh Accords in 2001. The negotiations were acrimonious, with the 6th COP at The Hague in 2000 collapsing due to the some Northern states' continued insistence that developing states must engage in "meaningful participation" in mitigation efforts to receive financial and technological assistance.

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[16] Annual meetings of parties to the UNFCCC.

The Marrakesh Accords coincided with two other major developments in 2001: the release of the IPCC's 3rd Assessment Report (AR) and the U.S. decision not to ratify the Kyoto Protocol. Sengupta argues that the 3rd AR "brought into sharp focus the fact that some degree of climate change was unavoidable" (2012, 103). The United States' decision meant that even if all other Parties fulfilled their obligations, the sought-after 5% overall reduction would not be reached. The fact that the climate science was to be treated as political knowledge, even by developed states, comes into clear focus here. It also highlighted the ongoing Northern increasing discomfort with "transitioning" economies like India and China not being bound to GHG emissions reductions.

Hosting the 8th COP in New Delhi in 2002, India successfully maintained the developing country prioritization of poverty eradication and other development efforts while for the first time acknowledging the importance of "climate adaptation" in the Ministerial Declaration and the negotiations' final text (UNFCCC 2002, Sengupta 2012). Significantly, *adaptation*, a contested term in internal debates among different political parties, finally was accepted, together with *mitigation,* as the two overarching categories of state climate action (Rajamani 2016). Significantly, adaptation was discursively fixed as referring to the theoretical and practical integration of state reactions to climate change with sustainable development efforts as outlined at Rio (UNFCCC 1992).

The inclusion of adaptation as a primary category of state action demonstrates how fluid the UNFCCC discursive framework remained through the mid- and late-2000s. Brunnee & Streck argue that during the period between the Kyoto Protocol's signing in 1997 and the 2015 signing of the Paris Agreement, debates continued regarding which identifying categories should be used to differentiate state responsibilities moving forward: developing/developed, Annex I

and non-Annex I, countries with economies in transition, particularly vulnerable and affected countries, etc. (2013, 593; UNFCCC 1997, Articles 3.5, 3.6, 12.8).

This discursive openness of the UNFCCC was mirrored by the Indian government's openness towards reimagining climate politics starting in the mid-2000s. I argue that the Indian state, beginning with Manmohan Singh's election as Prime Minister in 2004, was increasingly open to rearticulating its temporalities regarding the material and political shifts associated with climate change. This was at least partially due to the Northern states' attempts to "shift the focus of the climate debate from the question of who was responsible for the 'stock' of past global emissions to who would be responsible for their future 'flow'" (Sengupta 2012, 109). The next section explores the beginning of India's changing temporal orientation regarding climate change, starting with an analysis of India's First National Communication to the UNFCCC in 2004.

3.1 The Beginning of India's Shift in Temporal Orientation (2004 - 2009)

3.1.1 First National Communication to the UNFCCC

According to Article 12, every state Party of the UNFCCC is required to regularly communicate with its Secretariat a national inventory of anthropogenic emissions; an overview of steps taken or envisaged to fulfill the Convention; and any other relevant information related to implementing the Convention (UNFCCC, 15). India submitted its First National Communication ("1st Nat Comm") in 2004, offering the first formal indication of the state's general climate imaginary since the years leading up to the Rio Conference. The temporal imaginary expressed in this document largely echoes the one from the early 1990s: the state remains oriented towards using the past to justify current politics, climate change as a minor threat to the country, and the only commitment is to expand domestic climate research initiatives.

India's political imaginary at this time remained consistently oriented toward the past, but moving away from explicit references of colonial pasts and instead toward the much more recent past of the nation-state. Instead of beginning with the centuries of western imperialism that grounded the state's earlier articulations of historical responsibility, the time frame of reference now started with India's independence in 1947 and the subsequent initiation of development and poverty reduction efforts. For example, the 1st Nat Comm mentions the state's success in quadrupling food grain production between 1951-2002, asserting that "the Indian economy has made enormous strides since independence in 1947, achieving self-sufficiency in food for a rising population, increasing per capita GDP by over three-times..." (2004, *ii*). It also mentions that the gains made in quality of life and the population's health could soon be reversed due to an increase in the "climatic opportunities" for disease vectors (ibid., *x,* 18). The necessity of continuing on the path to development justifies India's increasing GHG emissions over the next several decades.

The 1st National Communication frames climate change as a minor, but growing threat to this recent history of the nation's development success. However, it still portrays climate change solely as a threat to national development efforts, not a broader threat to India as a society. Thus climate change is presented foremost as a *challenge* to continuing India's nationalist narrative of development and *progress*, not an extreme catastrophe or crisis. Chapter 3 describes climate change as such:

> The earth's climate has demonstrably changed on both global and regional scales since the pre-industrial era, with some of these changes attributable to human activities. The changes observed in the regional climate have already affected many of the physical and biological systems and there are indications that social and economic systems have also been affected. (ibid 59).

The neutral and abstract language used here betrays little sense of extreme crisis or catastrophe. The Indian government by 2004 recognized that climate change had had some observable effects on physical systems, and likely some effects on human systems as well, but was still treated as a distant, abstract risk. The document's discussion of the country's vulnerability is highlighted most in terms of the agricultural economy (ibid 81). However, the threat of climate change is still portrayed as a conditional possibility, a potential concern:

> In the 21st century, one of the great challenges for Indian agriculture will be, therefore, to ensure that food production is coupled with both poverty reduction and environmental preservation. The roadmap of sustainable agriculture development *may also have to consider* two additional important global drivers of change in agriculture in the coming decades - globalization and climate change. (ibid 84, emphasis added).

Climate change is framed here as a *potential* threat to the future viability of the state's historical agricultural and food security successes in the 20th century. Thus, in the concluding section of the Agricultural section, the main variables for agriculture "in the near future" are "changing demands, markets and agricultural technologies" (ibid 93). Climate change is a concern, but a secondary one to traditional development concerns: "global climatic changes and increasing climatic variability *could have* some adverse implications in achieving these goals" (93, emphasis added).

The tension between global and national representations of climate change is no clearer than in the "National Circumstances" section, one that presages the nationalist turn in Indian scientific discourses that would soon follow. The section frames the country's climate system around two aspects: wide geographic variability and the annual monsoon. The monsoon is "the most important feature of India's climate" (ibid 3) as well as "the most important feature in the meteorology of the Indian subcontinent and, hence, its economy" (ibid 60).

As to the actual data, the observed changes are minimal: a 0.4°C increase in nationwide temperature since 1900; a slight monsoon rainfall increases in several regions; no long-term trend in frequencies of large scale droughts in floods over previous 130 years; and limited but inconsistent Himalayan glacier melting (ibid, 15). Only three projections for future climate change are modeled, and briefly so: a rise of 2.5°-5°C in nationwide temperatures by 2100; no increase monsoon intensity until 2040, and then a 10% increase by 2100; and "changes in frequency and/or magnitude of extreme temperature and precipitation events" (ibid 16). There is a further brief discussion of possible impacts on water resources, food production, health and extreme weather events (ibid vi-vii). Together, the report projects threats that are still hypothetical, and some decades away. The relatively brief discussion of these estimates speaks to the then existing lack of Indian climate science capacities.

Finally, the document commits India to only one responsibility: building its climatic science research capabilities. Regarding the place of climate science, the document's "Research and Systematic Observation" section begins with a brief history of India's meteorological observations and research, mentioning both the first meteorological observatory in 1793 and the founding of the India Meteorological Department in 1875 (FNC 2004, xii; 135). Interestingly, the document argues that Indian climatic research and systematic observation has a long tradition, citing the "ancient Indian literature by Varahmihir, the '*Brihat-Samhita*', as an example of ancient weather research" (ibid 135). Yet "climate science" as a formalized and nationalized category of knowledge is absent from the document. It is only referred to in broad terms, as part of other fields of research for example, "The Government of India attaches high priority to the promotion of R&D in multidisciplinary aspects of environmental protection, conservation and development including research in climate change" (ibid 135). While the document claims that

"Indian researchers have contributed significantly to the global knowledge on climate change by undertaking research and through participation in international processes" (ibid 134-135), this contradicts the actual history of limited Indian participation and interest in the Intergovernmental Panel on Climate Change (IPCC) until the mid-2000s discussed in the chapter 3.

Acknowledging the lack of regional climate models, India-specific data and models rely on historical meteorological trends (ibid 60-73). Such lack of sophisticated regional climate observations or projections is cited several times as the primary gap in knowledge necessary for making relevant policy (104, 110, 222). However, the report cites that two state institutions, the National Centre for Medium Range Weather Forecast (NCMRWF) and the Indian Institute of Tropical Meteorology (IITM), were beginning to conduct studies that linked possible climate changes to effects on nationally important industries:

> atmospheric and climatic research with particular emphasis to develop indigenous, customized GCMs [global climate models] and RCMs [regional climate models] for the Indian subcontinent and to forecast the medium-range weather for socioeconomic sectors that are directly affected by climate, such as agriculture and tourism for short-term policy-making. (136-137)

This linking of climate impacts on specific industries continues into the document produced in 2008, coinciding with UNFCCC debates around the shape of the successor treaty to the Kyoto Protocol, as well as with the State's growing openness to accepting internationally binding commitments to research, adapt to and mitigate climate change.

4.1.2 National Action Plan On Climate Change, 2008

The four years between the 1st National Communication's publication in 2004 and the National Action Plan on Climate Change in 2008 were marked by a sense of growing political urgency among UNFCCC state parties. The first reason for this urgency was the necessity of negotiating a successor framework to the Kyoto Protocol, which was slated to end in 2020 and had its

effectiveness and legitimacy damaged by the uneven participation of Annex I (developed) states. In response, developed states, joined by several developing island states from the AOSIS group, argued that the post-Kyoto treaty should weaken the differentiation of responsibility between developed and developing states, and commit all states to some measure of binding obligations.

The second reason for the urgency was the IPCC's 4th Assessment Report, published in 2007, stressing that the threat of climate change was not only "unequivocal" but also a much more pressing concern than previously assumed (IPCC 2007, Sengupta 2012). The COP 13 in 2007 concluded with the Bali Action Plan, which called for "deep cuts in global emissions" through "full, effective and sustained implementation" of the UNFCCC by all state parties (UNFCCC 2007, 2).

India, following its success in including "adaptation" at the New Delhi COP in 2002, asserted for several more years that the continued maintenance of the differentiation principle was paramount, framing the principle's evolution as developing states only being held responsible for *adapting* to the effects of climate shifts, not for mitigating or stopping climate change through GHG emissions cuts (Sengupta 2012, 109). As late as June 2007, Prime Minister Manmohan Singh asserted that India "recognizes wholeheartedly" its "responsibilities as a developing country" to adapt to climate shifts, but not mitigate emissions (Singh 2007). But it is also clear that the international motivation to develop a successor to the Kyoto Protocol, along with the dire futures modeled in the 4th Assessment Report, began to affect India's imaginary of climate politics and the differentiation of responsibility. PM Singh voluntarily promised at the Summit that India would never exceed the average per capita GHG emissions of developed states, the first time the national government had ever broached the possibility of limits on GHG emissions, or mitigation responsibilities. Further, the 2008 publication of the

National Action Plan on Climate Change (NAPCC) by the Prime Minister's Council on Climate Change, marks the formal inclusion of climate change as a legitimate topic within domestic politics. The NAPCC is described as fulfilling two functions: "India needs a national strategy to firstly, adapt to climate change and secondly, to further enhance the ecological sustainability of India's development path" (NAPCC 2008, 1, 13).

The NAPCC is notable for marking the beginning of an explicit domestication of climate politics and because its temporal orientation shifted from a focus on the past to a focus on imagining potential futures. It still gestures to the government's traditional negotiation positions. These include laying the majority of responsibility for climate change with the "long-term and intensive industrial growth and high consumption lifestyles in developed countries"; prioritizing the principle of equity as the foundation of the climate governance regime; and upholding the legitimacy of using per capita calculations to determine state GHG emissions (ibid 1-2). But the NAPCC also makes clear that the government had begun to shift toward considering potential futures, rather than narrating the past. The document, rather, articulates India as a country in the process of pioneering a political and economic future distinct from those taken in the past by developed states: "in charting out a developmental pathway which is ecologically sustainable, India has a wider spectrum of choices precisely because it is at an *early* stage of development" (1, emphasis added). And while it acknowledges the importance of its "role as a responsible and enlightened member of the international community, ready to make our contribution to the solution of a global challenge," the purpose of said international cooperation is to ensure the nationalist temporalities of development and poverty reduction are not disrupted (ibid).

The NAPCC also frames climate change as a much more serious threat than in preceding state documents. In contrast with previous abstract descriptions of the risks involved with

climate change, the NAPCC now frames climate change as a significant threat to sustaining

"rapid economic growth" and development programs for several hundreds of millions of people

while also preparing for the "global threat of climate change" (ibid 1). In particular, it predicts

climate shifts could greatly affect water and resource availability, and thereby disturb the

livelihoods of hundreds of millions (ibid 3-6). Finally, while the document represents climate

change as a potentially serious threat for the country, it also states that there remains significant

uncertainty regarding the risk: "In view of the large uncertainties concerning the spatial and

temporal magnitude of climate change impacts" (ibid 13). Thus, the preferred initiatives in the

document are identified as those that promote both "development goals [and] climate change

objectives" (ibid 13).

The document is meant to address the "urgent and critical concerns" facing climate

change and development in India, "through a directional shift in the development pathway"

(ibid). It also repeats PM Singh's voluntary commitment that India's per capita greenhouse gas

emissions would "at no point exceed that of developed countries" (ibid 2). But the document

maintains that India's only explicit responsibilities were in adapting to any future climate shifts.

The NAPCC charges the national government with"the development and use of new

technologies" through eight National Missions focused on a range of issues including the

expansion of solar power access and utilization, energy efficiency, and afforestation efforts (ibid

3-6). Engaging in these Missions would "assist the country" in adaptation efforts, while briefly

mentioning efforts to ensure "avoided emissions," another slight nod to the state's willingness to

take on mitigation commitments (ibid 6).

The temporal shifts outlined in the NAPCC are important for exploring the government's

approach to the then-upcoming 2009 COP in Copenhagen.   Despite it being primarily crafted for

a domestic audience, it is clear the NAPCC was also meant to represent India as a "constructive" and proactive international actor. The NAPCC represents the first time India used nationalist imaginaries not only as a defense against attempts to synchronize the political pasts and presents of climate change, but also to start forming future imaginaries. In general, the NAPCC marks a turning point, in which the Indian state begins to discursively turn towards embracing a narrative of potential, climate disrupted futures.

4.2 A Critical Year: 2009

The year 2009 marks a significant point of departure from India's traditional position on accepting binding commitments. The first was Jairam Ramesh becoming Minister of Environment and Forests in May. His appointment to the position continued the softening of the state's discourses on differentiating responsibility that had begun under his predecessor, PM Singh, who had simultaneously served as Minister of Environment and Forests for the first three years of his tenure. "Softening" here is a relative term, in that the core of India's insistence on clear differentiation between developed and developing state commitments remained unchanged, though some promise of future change was intimated. However, as discussed in ch. 2, India's insistence on the North's historical and contemporary responsibility for climate change's origins and resolutions, had resulted in a reputation as "defensive," "obstructionist," and "unhelpful" among developed states.   Ramesh sought to "change the narrative of India in climate change negotiations" ("India Ready," 2009; Sengupta 2012, 110s). Vihma refers to this as a matter of "dual politics," a two-track system of appeasing international audiences while maintaining a sharp discourse for domestic actors (2011, 76).   Yet, as will be discussed below, Ramesh also sought to shift India's positions in response to the newly perceived material threat of climate

change, a fact he repeatedly commented on in public utterances but was not yet being discussed in the State's documents.

The second notable event in 2009 was PM Singh's signing on to the Declaration on Energy and Climate, drafted alongside the G-8 summit, recognizing that global average temperature rise should not exceed 2°C and work towards a "global goal" of reducing GHG emissions by 2050. His signing strengthened the signal of India's willingness "to concede [...] an implicit cap on its future emissions," at least opening the possibility of taking on mitigation efforts (Sengupta 2012, 110; Ramachandran 2009).

The third notable event was the formation of the BASIC (Brazil, South Africa, India, and China) multilateral group (BASIC 2009). This is an important development because it represents a clear break with previous, homogenous self-representations of "developing" states as a unified bloc, which had actually obscured South-South tensions. For years, the Alliance of Small Island States (AOSIS), formed in 1990, had privately called for drastic GHG emissions cuts by all states, not just the developed (AOSIS 1990). While prior to the 2009 Copenhagen Conference of the Parties, the majority of AOSIS states had consistently signed on to G77 positions that sought to maintain strict differentiation between developing and developed states, many privately pushed for greater developing state commitments. And post-Copenhagen, AOSIS, along with least developed countries and members of the African Group, joined North states in publicly calling for *all* states to be held to binding commitments in the post-Kyoto Protocol framework, owing to their fears of climate change as a significant threat to their very existence (Brunee & Streck 2013). Thus, the formalization of BASIC should be understood as a recognition by the four member states that there would be some level of nuance to qualify the concept of

"differentiation," i.e. rapidly industrializing states that continued to face enormous poverty reduction targets.

The fourth notable event was the 15th COP in Copenhagen, with a hardening of negotiating positions between the developed and developing state camps. Developing states insisted that the next phase of the UNFCCC be an enhanced version of the Kyoto Protocol: "top-down, differentiated, legally-binding, and based on rigid targets and timetables. Developed countries strongly argued for a bottom-up system that would allow states to set their own commitments, with a much more normative, "pledge-and-review" approach, and that, significantly, would require mitigation commitments from the large developing economies, i.e. Brazil, South Africa, India, and China (BASIC) (Sengupta 2012). The efforts BASIC made solidified the agency of this group of countries as an influential negotiating bloc, especially following increasing distance from least developed island and African states, who sought much deeper and stricter emissions cuts from all states.

And yet in October 2009, just a month prior to the Copenhagen COP, the *Times of India* published a confidential memo from Ramesh to PM Singh that called for several dramatic shifts in India's positions at the UNFCCC negotiations (Sethil 2013). The proposed shifts included arguing for a new phase of the UNFCCC to break with the Kyoto Protocol and accept that developing states would acquiesce to binding commitments; delink from the G77 in favor of the G20; the acceptance of some form of international review of domestic actions on adaptation and mitigation; and dropping the requirement of Northern commitments to financing and technology transfer schemes. Especially in regards to this last point, the threat climate change posed to India was a major reason for Ramesh's shift: "The position we take on international mitigation

commitments only if supported by finance and technology needs to be nuanced simply because we need to mitigate in self-interest" (as quoted from ibid).

PM Singh's approval of some of Ramesh's proposals was made clear two months later. Four days before the opening of the Copenhagen COP, the Indian government made a voluntary commitment to reduce its carbon emissions 20-25% over 2005 levels by 2020 (Ramesh 2009). This resulted in a public rupture within the negotiating team: two of the senior negotiators, Chandrashekhar Dasgupta and Prodipto Ghosh, initially refused to board the plane to Copenhagen. They only changed their minds when they were assured by Ramesh and PM Singh on three non-negotiable positions: non-acceptance of legally binding emissions cuts, the setting of a year by which greenhouse gas emissions should peak, and international review of mitigation actions not supported by Northern finance and technology commitments (Gupta et al. 2015).

Copenhagen ended with the drafting of the Copenhagen Accord, a text written by the United States and BASIC. Recognizing that developed and developing states could not agree on which commitments to make binding on which states, the Accord extended the final drafting of the post-Kyoto Protocol framework to 2015. In addition, other parameters for the future framework were set: the goal of keeping average temperature rise to no more than 2ºC and ideally, to 1.5ºC, and shifting from legal commitments on developed states to voluntary pledges being taken by all states. Copenhagen essentially did away "with the Kyoto Protocol's 'firewall' between Annex I and non-Annex I countries," by committing all states to some form of actions in any post-Kyoto Protocol framework (Falkner 2016, 1111). The anger of the majority of states left out of these "great power" talks meant the Accord was merely taken "note of" by the entire Conference of the Parties, rather than formally adopted.

4.3 India's Temporal Reorientation (2010-present)

The Copenhagen Accord set the general parameters for the next five years of negotiations that would result in the Paris Agreement, as well as India's reconsideration of its political positions and the associated temporal imaginary. At the pre-COP 16 Ministerial meeting in Cancun, a majority of developing states blocked a proposal by Ramesh to subject developing and developed states' climate actions alike to international transparency and accountability measures. They also dropped their long-standing argument for a per capita framework of proportioning GHG emissions cuts in favor of "equitable access to sustainable development," phrasing incorporated into the 2010 Cancun Agreement (ICA India 2010, UNFCCC 2011, para 6). The Cancun Agreement notably asserts that preventing dangerous anthropogenic climate change is a "global goal," i.e. that commitments of some kind must be taken by both developing and developed states in the new framework (UNFCCC 2010). The Agreement is viewed as the framework that led to the Paris Agreement because it "restored the diplomatic trust shattered" at Copenhagen and secured these shifts within the UNFCCC moving forward (Brunee & Streck 2013, 595). And the 2011 COP effectively secured a re-orientation of UNFCCC politics by accepting positions long-argued by developed states regarding the differentiation of responsibility. As opposed to all previous COP decisions, there is no reference to "historic emissions," no explicit reference to differentiation, and an affirmative assertion for the need for developed states to "lead" but not dominate, mitigation efforts (2011). While there are several mentions of the Platform being established "under the convention," the lack of explicit reference to CBDR and the historical emissions of the North marks the fading of the Kyoto Protocol version of the UNFCCC in favor of a less differentiated, more "global" or uniform framing of climate politics and hence, climate imaginaries.

In other words, India, along with other major developing states, during this period acquiesced to a change in timing state responsibility. Rather than basing responsibility on historical GHG emissions, differentiation for action is based on *current and future* emissions.

4.3.1 Second National Communication to UNFCCC, 2012

India's imaginary of climate change and climate politics changed significantly at this time both with regard to the newly published 4x4 Report discussed in ch. 3 but also international discourses in which it was increasingly isolated from other developing states. This change in the national government's imaginary becomes clear in its Second National Communication to the UNFCCC (2nd Nat Comm). In some contrast to the 1st Nat Comm, there is much less reference to the nationalist history of development, in favor of focusing on the future of "a sustainable development pathway" (2012, *i*). This Communication clearly represents a transition for the Indian government. The document's explicit shift to imagining potential climate futures as integrated with, not separate from, nationalist temporalities of development. This language makes clear that, echoing Indira Gandhi's 1972 speech to the UNCHE, India could not legitimately speak of development without also dealing with the issue of environmental degradation. It also reflected some of Gandhi's insistence that India must acknowledge its domestic and international responsibilities for ameliorating this degradation.

Climate change is framed as a more threatening risk, and closer in time, to India than it was in the 1st Nat Comm. The combination of temperature rises, sea level rises, and decrease in snow cover in the Northern Hemisphere "are likely to threaten food production, increase water stress and decrease its availability, result in sea-level rise, which could flood crop fields and coastal settlements, and increase the occurrence of diseases such as malaria" (2nd Nat Com 2012, 95). The text makes it clear that the climate science had advanced significantly as

compared to the 2004 1st Nat Comm. In turn, "this improvement has facilitated a much deeper analysis of the impacts due to climate change on the various sectors" of agriculture, water resources, forests and others (ibid 2012, 95). However, this 2012 text still identifies the large gaps between the science and developing relevant policy as an ongoing issue: "due to uncertainties in regional climate projections, [the] unpredictable response of natural and socio-economic systems and the inability to foresee the future technological developments do provide some limits to the exercise" (ibid).

The observed changes in the climate are framed as more salient risks than they were in the 1st Nat Comm: "the changes observed in the regional climate have already affected many of the physical and biological systems, and there are indications that social and economic systems have also been affected" (ibid). This text follows the general trend since the 2000s of India's framing of climate change effects as primarily a regional, rather than a global, issue. Notably distinct, however, is the text's discussion of the necessity of developing "integrated assessments" (ibid 142-155). These assessments analyze the

> interactions between natural and socio-economic systems, for understanding the cause-effect chains, including feedback loops across many dimensions," including the "sectoral, spatial, temporal, process, policy, and implementation, and finally mitigation, vulnerability, impact and adaptations. (ibid 142).

Critically, then, just as the Indian state turns toward taking climate futures seriously, the potential for multiple futures has narrowed; now, due to the "non-attainment of GHG reduction targets," "adaptation has become inevitable" and implicitly, so have futures where India will be strongly affected (ibid). In other words, the perception of an increase in likelihood for substantial climate change triggers an explicitly future orientation. But there is only one future socio-economic pathway now possible; even more than in the 1st Nat Comm, i.e. "sustainable development"

efforts represent "a foundational tool in building our policies/programmes to mitigate the likely impacts due to climate change on various sectors" (ibid).

4.3.2 Intended Nationally Determined Contributions, 2015

At the 19th COP in Warsaw in 2013, in line with the Durban Platform, decision 1/CP.19 called for all Parties to develop Intended Nationally Determined Contributions (INDCs) to form the basis for mitigation efforts after 2020. INDCs were designed as a compromise between top-down and bottom-up approaches to international climate change mitigation and adaptation efforts. They represented a major shift from the obligations made in the Kyoto Protocol, which differentiated GHG emission reduction obligations between Annex I (developed) and non-Annex parties (developing) states.   While commitments made under the Agreement would be legally binding, they would also be voluntarily constructed and engaged with. Interestingly, states were given wide latitude in the 1/CP.20 resolution from the 20th COP, regarding what exactly the INDCs should contain (UNFCCC 2014). They had to include quantifiable data regarding the state's choice of time frames for the commitments, implementation, planning processes, assumptions and methodological approaches, the base year upon which to measure efforts, and, significantly, must be "a progression beyond the current undertaking" of each Party (UNFCCC 2014, 3). The new Agreement was meant to follow the lapse of the Kyoto Protocols in 2020, so the majority of states' INDCs focused on a 2020-2030 time frame.

The temporality expressed in India's INDCs is different from that expressed in its 1st National Communication ten years prior in three key ways: in terms of the state's orientation to the future, the government's voluntary self-commitment to mitigation and adaptation responsibilities, and articulating climate change as a significant near-term and long-term threat to the country.

First, given that the format of the document required states to focus on their intended or future, commitments, India had little latitude to base its political imaginary on historical narratives. The Introduction claims a long acknowledgement of the importance, and experience with, "sustainable lifestyle[s]" and ensuring a "healthy planet" for "future generations" specifically. The text moves on to asserting India's key priority of economic development for presently impoverished generations, those "left behind." Yet the text presents India as being able to offer an alternative path into the future for developing countries to integrate environmental protection and poverty reduction efforts: "just because economic development of many countries in the past has come at the cost of environment, it should not be presumed that a reconciliation of the two is not possible" (2015, 1).

Climate change is articulated as a significant threat primarily to India: it is a "calamity" that would cause "irretrievable damage and consequences that block the progress of others" (2015, 1). But climate change is also described as an opportunity for the world to learn from India's experience and wisdom. It is a "major challenge especially for developing countries like India that face large scale climate variability and are exposed to enhanced risks from climate change" (ibid 4). In fact, in line with the other documents, India is framed as being uniquely vulnerable in the future because of the large proportion of the population who relies on agriculture for the livelihoods; the extent of its coastal areas; and the Himalayan region. Finally, the sheer quantity of poverty in the country means that India is uniquely challenged even compared to other developing states: among the other "National Circumstances" it outlines, the text states it is home to the largest concentration of the world's poor (30%, ~360 million people).

But in addition to imagining the most likely futures of climate change, the document also imagined futures marked by novel commitments taken on by India, especially in terms of

quantifiable mitigation and adaptation responsibilities. The document presents the state's past engagement in international climate politics as a bridge between developing and developed states. Interestingly, the Introduction also describes the country as a site of "climate friendly" investments. The country is both "open and innovative in embracing new technology and a cleaner way of doing things, as it is from the inherent principles of sustainability ingrained in its thought process" (ibid, 3). In this way, the claim is being made that India's traditional wisdom concerning ecological and sustainability can be operationalized, with wide-ranging effects on global mitigation and adaptation efforts, if international investments are made within the country. Since the introduction heavily emphasizes India's ability to make a difference internationally, it is not a wholly nationalized future of climate change. Twice, the attempt to integrate poverty reduction efforts with mitigation and adaptation efforts are referred to in universal terms: "common understanding of universal progress" and equating human progress with a collective rising to "its obligation to the world and responsibility to the future" (ibid, 3). But the thrust overall is clearly towards national imaginaries of climate futures.

For the first time, India was required to outline its mitigation and adaptation commitments. In terms of *mitigation*, the most noteworthy commitment was to limited GHG emission reductions. These cuts entailed a 33-35% reduction in intensity/GDP by 2030 from 2005 levels. Mitigation efforts include the development of alternative energy capacities (ibid 9); enhancing energy efficiency (ibid 11); making cities climate resilient; increasing the country's total forest cover from 24% in 2013 to 33% "eventually" (ibid 17); and the reduction of general air pollution (ibid 19). In contrast, *adaptation* efforts in the text are centered on maintaining poverty reduction and development efforts in spite of climate shifts, with areas of focus including agriculture water, forestry, and capacity building (ibid 19-20). The text claims that as

of its writing in 2015, 80% of total adaptation expenditures centered on "human capabilities and livelihoods viz. poverty alleviation, health improvement and disease control and risk management" (ibid 20).

The document also echoes Indira Gandhi's argument that the State's push for development must incorporate responses to environmental degradation. Comparing the language of the mitigation and adaptation sections, the effects of adaptation efforts are framed less concretely, while mitigation efforts are described in terms of quantified projected results, focused on much more long-term considerations. By contrast, mitigation efforts are connected directly to the quality of life of the existing population, especially vulnerable communities. Indeed, the text states that the integration of adaptation efforts into development schemes "is of immediate importance and requires action now" (ibid 19). Adaptation efforts as described are also much more regional than national in scale, with all 29 states and 7 union territories preparing localized "State Action Plans on Climate Change" (ibid 25-26). The Adaptations section also explicitly gestures towards the differentiation of vulnerability at sub-national levels, owing to variations in local climate patterns, ecosystems, "social structures, economic conditions, and needs of different communities" (ibid 19).

The text supports this chapter's overall arguments: that India shifted towards constructing climate futures rather than contesting the origins of and responsibility for climate change because of normative and material concerns alike. With the discursive closure evident at the UNFCCC in favor of favoring climate futures rather than pasts, India could have spent much of the INDC text emphasizing, once again, the importance of historical responsibility (HR) for assigning state responsibility for adaptation and mitigation efforts. While it maintains a strongly *differentiated* approach between developed and developing states, the emphasis on the past, rather than the

future, would have meant India would be seen as a non-constructive member of the international climate regime. But by this point, and owing partly to the development of domestically produced climate science, India began to frame the country as being at significant and near-term risk of disruption. Indeed, the Disaster Management section notes that, "it has been witnessed that the occurrence of flash floods, extreme weather events, droughts, etc. has increased in frequency and become more unpredictable" (ibid 24). In this way, climate change is made to be an issue happening today, and likely worsening in the future.

These INDCs indicate several important aspects of India's climate imaginary in the immediate lead-up to the Paris COP. First, by the very nature of intended nationally determined contributions, states were oriented towards preparing responses in the present in order to prevent particular climate future of more than 2ºC warming and the resulting political, economic, and social futures; as well as to prepare material infrastructure and populations alike for some measure of climatic shift and disruption. The text mentions the historical responsibility of developed states only twice, a distinct decrease from previous texts (2015, 2). However, it presages the discursive closure of the past as a legitimate political issue that would be evident in the Paris Agreement.

4. Conclusion: India's Response to the Synchronization of the Paris Agreement

The Paris Agreement explicitly set out three potential climate futures for state parties to choose from, each co-constructed through political and scientific discourses: a future of 1.5ºC average global warming, a 2°C average warming, and a more than 2°C average global warming. The first one is framed as the least dangerous in terms of disruptions to human societies and the natural world, and therefore the most desired, but highly unlikely to keep to. The more likely and easier future to secure is a 2°C average temperature rise, which would cause significant but

not catastrophic climatic shifts (UNFCCC 2015; IPCC 2007, 2014, 2018). Ensuring that one of

the first futures is manifested, and by default, that the over-2°C future is prevented, would

require rapid changes to existing economic, ecological, and political practices of nation-states in

the present and very near-future. In its explicit turn to the scientifically and politically co-

constructed futures, the Paris Agreement solidified several shifts away from Kyoto. First, as

discussed above, all states are now required to construct, implement and report their Nationally

Determined Contributions (NDCs) in a pledge-and-review system, long called for by developed

states, at five year intervals. Each successor NDC should aim to be more ambitious than the

previous. Though the commitments are binding on all state parties, the enforcement is not legal,

but normative, with state progress reported to the Secretariat and Conference of the Parties.

Most importantly, differentiation is based less on a strict distinction between developed and

developing states and a more even distributed set of responsibilities for mitigation and

adaptation. As the Paris Agreement has no prescribed end date, it represents the temporal

framework of international climate politics *indefinitely*.[17]

Therefore, the only legitimate political temporalities for developing and developed states

that can be used to justify their political positions are solely future-oriented and more synchronic

than diachronic. Historical imaginaries like India's articulation of western colonialism and the

origins of climate change are permanently closed off as legitimate narratives. Effectively, the

Paris Agreement closed off the use of diachronic temporalities as legitimate bases upon which to

construct its politics in the present day.

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[17] Though states parties were given a 2021-2030 timeline for the the the first INDCs, there is no explicit end date in the Paris Agreement itself. This belies the fact that the Paris Agreement is viewed as the unofficial successor document to the 1992 charter text.

This chapter demonstrates that by 2009, India's temporal imaginary of climate change as articulated to an international audience had begun to change. The shift towards the future was caused in part by the increasing amount of climate science produced domestically, and partially by the sense of urgency communicated in the data and models. While India joined all other states in closing off the past as a legitimate political issue in framing climate change, it continues to offer a differentiated, diachronic framework for imagining likely climate futures. For example, the state's most recent submission to the Subsidiary Body for Implementation, argues for set 5-year timeframes for developed states INDCs while giving developing states a choice between 5- and 10-year timeframes (MoEF 2018). It argues this flexibility prevents developing states from "undue burden" as well as dealing with "the uncertainties related to availability of support, particularly finance and technology development and transfer support" (ibid). Yet overall, India's representation of its participation in the international climate governance regime between 2004 and 2015 moved closer to developed state positions in scientific and political discourses, essentially minimizing the extent to which it references the plurality of temporalities constituting climate change as an international political issue.

The national government's articulation of climate change has now become a legitimate issue for *domestic* politics, which represents its attempt to continue to articulate a diachronic imaginary. Consider this brief excerpt from the first paragraph of India's INDC:

> India has a long history and tradition of harmonious co-existence between man and nature. Human beings here have regarded fauna and flora as part of their family. This is part of our heritage and manifest in our lifestyle and traditional practices. We represent a culture that calls our planet Mother Earth. As our ancient text says; "Keep pure! For the Earth is our mother! And we are her children!" The ancient Indian practice of Yoga, for example, is a system that is aimed at balancing contentment and worldly desires that helps pursue a path of moderation and a sustainable lifestyle. Environmental sustainability, which involves both intra-generational and inter-generational equity, has been the approach of Indians for very long (2015).

This paragraph is noteworthy for representing India as a society whose own temporality is constituted by secular and sacred worldviews. In this way, "India" straddles several temporal scales. It is a modern state that has struggled to frame politics in the international climate regime foremost as a matter of "equity," especially in terms of equal priority given to present and future generations. Yet "India" is also described as existing before its birth as an independent nation-state: a place with "a long history and tradition," "traditional practices," an "ancient text," and the ancient practice of Yoga that could provide humanity resources to prevent the worst of climate change futures. Its ecological practices anticipated modernist notions of sustainability, moral responsibility, and equity itself.

I have so far examined the government's articulation of political temporalities of climate change as a party to the UNFCCC, through its engagement with political and scientific bodies of discourse. In order to analyze the government's articulation of climate temporal imaginaries as a domestic political issue, I turn next in chapter 5 to examining Prime Minister Modi's use of religious, Hindu nationalist narratives to describe the temporality, threat, and opportunity of climate change for India. In so doing, it continues to articulate a diachronic temporality domestically, even while it acquiesces to a synchronic temporality internationally.

Ch. 5 - Sacred Climate Futures: Hindutva Imaginaries of Climate Change (2015-2018)

1. Introduction

The previous three chapters explored how the Indian state articulated temporal imaginaries of climate change through its engagement in two bodies of discourses, international environmental politics and climate science. The state viewed both discourses with suspicion, as representing bodies of knowledge inseparable from universalist political experiences, norms and assumptions. Recall Bhabha's and Muppidi's observations from chapter 1 about the tendency of post-colonial subjects like States to alternate between mocking and mimicking the west. In this way, India's engagement in political and scientific discourses demonstrated how it both resisted and adopted synchronic narratives of climate change at the UN Framework Convention on Climate Change (UNFCCC). The State long grounded its international environmental politics in an explicit post-colonial worldview in which different societies experienced different tempos and times of environmental issue. Similarly, while long doubtful of climate science's tendency to frame climate change as a *global* problem, the increasingly dire futures modeled by international and domestic institutions alike led the State to accept the scientific viewpoint by 2010.

By 2015, despite previously maintaining a generally past-oriented temporal imaginary, the Indian state's imaginary at the UNFCCC moved closer to the synchronic imaginaries of developed states in two ways. First, it acquiesced to a weakening of the principle of differentiation between the responsibilities given to developing and developed states. Second, it prioritized the future, rather than the past, for orienting its climate politics. Both positions indicate India becoming less comfortable with asserting a strongly diachronic imaginary internationally.

This chapter turns to exploring the government's most recent articulation of climate imaginaries through a third body of discourses, the religious. The State's engagement with religious discourses on climate change, is different from the previous engagement with its political and scientific cousins for two reasons. First, it is primarily aimed at framing climate change as an issue for domestic and international politics. And second, the reliance on Hindu religious and sacred language means that it is unlikely to be co-opted by other states for their own purposes. These changes were initiated by Prime Minister Narendra Modi since his election in 2014, framing climate change through a Hindu nationalist worldview, i.e. *Hindutva* ideology. Owing to the relatively short time Modi has employed religious frameworks, there is little scholarship assessing the government's sacralization of a previously secular phenomenon (Hall 2016). This chapter contributes to filling this gap. In order to explore the Hindutva imaginaries of climate change that Modi is constructing and deploying, I analyze six speeches and one book he has produced.

I begin by reviewing the applicability of a post-secular framework for analyzing religious engagements with climate change, as well as the existing literature on using *sacred* epistemologies to analyze climate change, specifically focusing on Hinduism. Second, I analyze the underlying temporalities in Modi's speeches and texts. Finally, I conclude by briefly discussing the dangers of and potential in religious and sacred framings of climate change.

1.1 Analytical Framework and Documents

This chapter is guided by the question of what climate temporalities are constructed by Modi's use of religious and sacred language. As the leader of the *Bharatiya Janata* Party (BJP), he holds significant influence in shaping Hindutva political ideology. As an avowed *Hindutva* ("Hinduness") adherent, he uses his religious worldview to elaborate on and justify his

government's vision and policies more than any previous one, including the previous BJP government (1998-2004) to both domestic and international audiences. While the State government previously used political and scientific discourses in order to build consensus among domestic actors, these actors were always already part of or connected to the government. In contrast, Modi has sought to make climate change an issue among the general Indian public. In doing so, he articulates a temporal imaginary bounded less by the temporal horizons of the nation-state and more with "India" as a long-existing society and source of knowledge.

A key distinction here is between "religious" and "sacred" language. As I will explore further in the next section, both concepts originate in the western canon: "religion," derived from the Latin *religio*, marked a set of formalized practices communally recognized in ancient Rome (Ando 2008). The modern iteration in English, "religion," only came into use in the 17th c. CE to indicate a formalized set of abstracted *beliefs* (Cavanaugh 2009, Harrison 2015). The term's application to non-western societies is hotly debated; this will be discussed briefly below in particular reference to Hinduism (Asad 2003, Dubuisson 2007, Nongbri 2013). Because of its western etymological origins, the propriety of applying "religion" to non-western societies is contested (Asad 2003, Dubuisson 2007, Cavanaugh 2009). Given the fact that there is no generally agreed upon definition of the concept, I adopt a functionalist conceptualization, focusing on understanding the function of religion as a social and communal form of order (Christiano et al. 2008). In contrast, the English word "sacred," derived from the Latin *sacer*, is itself derived from two concepts in the Proto-Indo-European language, and implies a relationship with the divine, or that which is holy, beyond the everyday, material life of human beings (Agamben 1998, Asad 2004, Doniger 2007). Thus, I categorize the wider discourse that PM Modi engages in as *religious*, since he alternates between treating Hinduism as a formalized

community of practice and belief and as a representation of the nation-state ("India"). But within these discourses, I also explore his use of sacred concepts and language to transcend the temporalities of the nation-state.

The six speeches under analysis were discovered by searching for speeches that included the following terms: "global warming" and/or "climate change," from the Prime Minister's website (narendramodi.in). The selected speeches include those intended for both domestic and international audiences and cover the full period he Modi has served as Prime Minister. I selected his book, *Convenient Action,* an allusion to Al Gore's film *An Inconvenient Truth (2002)* because it frames Modi as having a long history of treating climate change as a significant political issue; the book's publication, a week before the opening of the 2015 UNFCCC Conference of the Parties in Paris, indicates an attempt to influence international opinion with regard to Modi's government's framing of climate change.

Three of the speeches were meant primarily for domestic audiences: his speech to the new state environmental and forest ministers in April 2015; his speech to celebrants of a Hindu holiday, *Khumbh Mela* in May 2016 (entitled "Knowledge is Immortal and is Relevant in Every Era"); and an October 2017 speech to a Hindu organization ("India's Cultural Heritage Holds the Answers to All Global Problems").   The other four texts were primarily meant for international audiences: Modi's inaugural speech to the UN General Assembly in September 2014; his opening speech to Samvad, a Global Hindu-Buddhist Initiative on Conflict Avoidance and Environment Consciousness in September 2015; *Convenient Action* in December 2015, summarizing Modi's climate initiatives during his tenure as Chief Minister of Gujarat (2001-2014); and his speech to the inaugural meeting of the International Solar Alliance in March 2018.

I analyze the documents thematically, along three related registers. How does Modi articulate the historical and future parameters of India's temporal imaginary? How does Modi *time* the threat of climate change? And how does he categorize the type of threat that climate change poses to India?

Table 5.1 – documents under analysis in ch. 5

Date	Text	Audience
September 2014	"PM's Statement to the General Assembly"	UN General Assembly
April 2015	"PM's Inaugural Address"	Annual conference of State Environment and Forest Ministers
September 2015	"Opening Address"	*Samvad* conference: Global Hindu-Buddhist Initiative on Conflict Avoidance and Environment Consciousness
December 2015	*Convenient Action* (book outlining climate initiatives in Gujarat state during Modi's tenure as Chief Minister, 2001-2014)	General audience, international & domestic
May 2016	"Knowledge is Immortal and is Relevant in Every Era"	*Kumbh Mela*[18] pilgrims
October 2017	"India's Cultural Heritage Holds the Answers to All Global Problems"	*Vedanta Bharati* (Hindu NGO)

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[18] A mass Hindu pilgrimage held every three years to honor Lord Vishnu's spilling of *amrita* (drink of immortality) in four spots around the country while he carried it in a *kumbh* (pot). Tens of millions of participants take part over the two month period that the *Kumbh Mela* lasts (UNESCO 2017).

| March 2018 | "PM's Opening Address" | Inaugural meeting of the International Solar Alliance[19] |

2. The Politics of Framing Hinduism as an Environmental Religion

2.1 Hindu Nationalist Politics and Environmentalism

The only constant in the history of Hinduism is that defining it has always been highly context-specific (Sen 2005, Doniger 2007). According to Doniger,

> The Hindus have not usually viewed themselves as a group, for they are truly a rainbow people, with different colors, drawing upon not only a wide range of texts, from the many unwritten traditions and vernacular religions of unknown origins to Sanskrit texts that begin well before 1000 BCE and are still being composed, but, more important, upon the many ways in which a single text has been read over the centuries, by people of different castes, genders, and individual needs and desires. (Doniger 2009, 25).

From ancient to medieval times, the meaning of the term "Hindu" was almost completely geographically informed, referring to the inhabitants of the region surrounding the Indus River, with Persian and Chinese texts, among others, using the term. By the early 16th c., the newly established Mughal Empire shifted to using the term to refer to non-Muslim inhabitants of the subcontinent. Colonial and western attempts to categorize Hinduism as a "religion" the same as other religions, is an interesting case of the intersection between imperialism, burgeoning nationalism, and the attempt to weave together a wide range of practices, beliefs, and communities under a monolithic heading (Hardiman 1995, Srinivas 1952, Raghu 2012). The British Empire expanded on this usage by the late 19th c. and began to differentiate communities based solely on systems of practice and belief the colonizers thought they discerned, and institutionalized distinctions between Jains, Muslims, Parsees, and Hindus (Lal 2009). Even

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[19] The ISA, formed in 2015, is an international NGO of 121 countries and led by India, dedicated to the spread of solar energy to developing states.

treating Hinduism as a "religion" is controversial for many adherents, because of the term's

association with "dogma" rather than a way of life (Hatcher 2015).   There is no single tradition,

nor complete canon, to be enforced, and no single actor to carry out the enforcement. Even the

few texts claimed by the majority of adherents (the *Vedas*, *Upanishads*, *Bhagavad Gita*, and the

Agamas) have been subjected to wildly different interpretations depending on context. The

pluralism inherent to thought inside and out of Hinduism within "India," has resulted in a society

uniquely open to (re)interpretation, heterodox ideas, and debate (Sen 2006).

While the British were the first to attempt to essentialize Hinduism, domestic actors have

also tried to construct it as a static and homogenous category. *Hindutva* is a social and political

project dedicated to defending what its adherents view as the essence of the faith. The rise of

contemporary Hindutva fundamentalism was presaged by the *Arya Samaj* ("noble society"),

founded in 1875 by Dayananda Sarasvati, as a fundamentalist response to secularization

pressures and based on the assumption of ultimate authority by the *Vedas*, the oldest scriptures in

Hinduism (Gosling 2001). In other words, Sarasvati adopted the British methods for

essentializing Hinduism, but to mobilize popular support *against* the Raj.

The 1925 founding of the *Rashtriya Swayamsevak Sangh*, the RSS, ("National Volunteer

Organization") by Veer D. Savarkar, marked a new step in using fundamentalist discourses to

mobilize political action. Savarkar, responsible for coining the term *Hindutva*, argued that

Hinduism as religion was only one component of the more encompassing "Hinduness," a

category that should refer to all communities supposedly native to the sub-continent, and exclude

those constructed as "foreign," i.e. Muslims and Christians. The conflation of religious and

geographic definitions was meant as a counterweight to secular anti-colonial mobilization efforts

of the Indian National Congress. Following Independence, the RSS was joined by numerous

satellite groups to form a political coalition, the *Sangh Parivar*, ("Family of Organizations").

The coalition's largest party, the BJP, (*Bharatiya Janata* party, "Indian People's Party") founded

in 1980, has been a key player in national and state politics, heading the national government

between 1996-1998, 1998-2004 and 2014-present. Its ideology is a synthesis of conservative

religious, nationalist, and social discourses that maintain that Hindus, along with Buddhists,

Jains, Sikhs, and *adivasi* (indigenous) communities should be considered properly "Indian,"

while those supposedly without roots on the sub-continent, i.e. Muslims and Christians, should

not (Jha 1999). In other words, "Indian" and "Hindu" are interchangeable categories of identity

that conflated polity and religious community. *Hindutva* ideology relies on a mythologized

history of an advanced and long-lived Hindu civilization that justifies Hindu hegemony in order

to return society to a golden age (Banerjee 1998). *Hindutva* politics have been blamed for

increasing communal tensions and conflict, most notably the 2002 Gujarat riots that resulted in

over 1,500 deaths (during Modi's tenure as Chief Minister), and mob killings of Muslims for

eating beef (Pannikar 2004, Augustine 2009).

Despite some minor interventions, environmental and ecological concerns have up until

now not been a priority for *Hindutva* adherents nor the political parties in the *Sangh Parivar*. In

one of the few such cases, the *Sangh Parivar's* resistance to building a large dam in Uttaranchal

in the mid-1990s was based on the argument that it would impinge the flow of the goddess,

Ganga. They also claimed that, in the case of failure, the resulting deluge would specifically be a

threat to Hindu sites and Hindu lives (Mawdsley 2005, 11). Some *Sangh Parivar* leaders even

claimed the dam was a "foreign" (i.e. Muslim) project meant to threaten the existence of "the

great Hindu culture" in the region (Mawdsley 2005, 11; Sharma 2001).

However, religious and sacred language can also be a deep resource for rethinking politics outside the nation-state. The relationship between Hinduism and environmental issues demonstrates how religion can be both co-opted by the State and used to challenge it. Very different from the Indian state's engagements with international environmental politics or climate science, its engagement with religious discourses has been used to inculcate a common imaginary of climate change among the Indian public. Sacred language has often played a central role in making local environmental crises into social and political issues in India (Chapple 2000). However, Modi's embedding of sacred language within an explicitly religious orientation in order to imbue a transnational environmental crisis with political meaning for the Indian public is novel for a Prime Minister.

There is a common assumption that Hinduism uniquely sacralizes nature and the environment in comparison with other faiths (Lal 2015, 395). This assumption is expanded on in scholarship that explores Hinduism's sacralized understandings of ecological phenomena and non-human life within its traditions (Nelson 1998, Chapple 1998). The idea here is that the sacredness Hinduism ascribes to objects in the world, whether rocks, trees, or "nature" as a whole, justify the assumption that Hindus, "will safeguard and protect that which we worship and honor" (Lal 2015, 396).

Indeed, many grassroots environmental movements in the country have used sacred discourses to mobilize public support and demand government action. (Gadgil & Vartak 1976, Gupta 1999, Jackson & Chattopadhyay 2001, Narayanan 2001, Kent 2013, Notermans et al. 2016). For example, in recent years, environmental activists and NGOs have tried to have rivers legislatively or judicially granted legal personhood in order to support conservation efforts. In notable case in May 2017, the Uttarakhand Supreme Court designated the Ganga and Yamuna

rivers as persons entitled to legal protections. The Court's ruling is interesting for the way it

integrates legal, sacred and environmental discourses:

> ...[the] rivers Ganga and Yamuna are losing their very existence. The situation requires
> extraordinary measures to be taken to preserve and conserve…[They] are worshipped by
> Hindus. These rivers are very sacred and revered. The Hindus have a deep spiritual
> connection with [them]. They support and assist both the life and natural resources and
> health and well-being of the entire community. [They] are breathing, living and
> sustaining the communities from mountains to sea (USC 2017).

Though not ultimately successful, this novel approach to legal environmental conservancy was

only possible with the inclusion of religious discourses.[20] This example, of imbuing non-human

objects like rivers or forests with a measure of agency is in line with the history of Indian

societies sacralizing natural phenomena and objects (Doniger 2007, Gopalan 2017, O'Donnell &

Talbot-Jones 2018).

However, prior to PM Modi's articulations, the usefulness of religion generally has only

briefly been touched on among international climate actors (Ghosh 2015). The majority of

religious discourses have been initiated by non-state actors. For example, two "Hindu

Declarations on Climate Change" were released in 2009 and 2015, just prior to the Copenhagen

and Paris Conferences of the Parties respectively, by the Oxford Centre for Hindu Studies.

Anticipating some of the themes that Modi later articulated, the Declarations argue that

Hinduism is uniquely ecologically minded. Further, the Declarations frame fighting climate

change as the duty of every practicing Hindu: "Today we call on all Hindus to expand our

conception of dharma. We have a dharmic duty for each of us to do our part in ensuring that we

have a functioning, abundant, and bountiful planet" (2015). This simultaneous prioritization of

religious communities and individuals, rather than the State, is notable.

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[20] The national Supreme Court struck down the state Court's ruling later that year (Khehar & Chandrachud 2017).

But it is also clear that there are limits to the extent to which Hinduism actually raises public environmental consciousness given the long list of ecological crises facing the country, including urban air pollution, mass deforestation, and the pollution of rivers, including the holy Ganga (CSE 1982, Chakrabarty 2002, MEF 2015). Indeed, Notermans et al. outlines how in one case, orthodox Hindu practices and beliefs were used to justify the cutting of sacred forests and the subsequent creation of a timber market, rather than resisting the efforts (Notermans et al. 2016).

There is also the danger that appears when the ineffability of the *sacred* is essentialized by State actors in order to maintain and affirm existing power structures. The danger comes when actors essentialize the concept of the sacred in terms of its cosmology, hierarchy and organization, or as a body of knowledge used to supplement an existing power base (Haluza-DeLay 2014, 264). This is what Modi does when framing "Hinduism" as an environmental religion, implying that "Hinduism" itself is a historically coherent category that, in the case of *Hindutva* ideology, is interchangeable with the political and social subject of India. It is only in the last two hundred years, out of a twenty-five hundred year existence, that the term "Hindu" has been used to categorize a wide range of practices, communities, identities, and beliefs. Modi's discourses on climate change simultaneously embodies new ways of thinking through the phenomenon as well as the inherent dangers of a state-embraced religious ideology that is based on the explicit exclusion or integration of the Other (Muslims, Jains, Christians, among others). And with the rise of Hindu nationalism's influence in the country's politics has come Modi's effort to essentialize the whole of Hinduism as a uniquely ecologically-minded faith.

PM Modi has taken up climate change with rhetorical zeal, mirroring the state's general shift towards recognizing it as a pressing political concern in the immediate years prior to his

taking office in 2014. Recall the introductory paragraph to India's 2015 Intended Nationally

Determined Contributions. This was the first formal communication between the Indian

government and the UNFCCC since Modi's election the prior year. As mentioned, he describes

India as a society whose ancient "heritage" involves personifying the planet as "Mother Earth"

and practicing yoga as a way for individuals to practice sustainability and so prevent the worst of

climate change futures (INDC 2015). And he frames climate change as one of the two primary

threats to humanity's existence, terrorism being the other (Modi 2014, 2015). In order to

effectively analyze his co-construction of an alternative temporality of climate change, I rely on

a post-secular framework that focuses on unpacking what temporal and epistemological

boundaries Modi affirms, denies, or modifies. In doing so, he constructs India, for the first time

in any of these documents, as an explicitly religious polity.

3. Analysis

3.1 Relationship between past knowledge, present crises, and future roles

Modi's Hindutva imaginary of climate change shapes how the past and future are treated as

resources for guiding state actions in the present. I argued in previous chapters that for the first

half of its history as a UNFCCC party, India prioritized the past in terms of its history as a

colony and the west's past in terms of its history as colonizer. In the second half of its

participation at the UNFCCC, India prioritized constructing potential futures, grounded within

the history of its post-Independence development efforts. In contrast, Modi's framing of the

relationship between past and future in constituting the present is more nuanced, treating *ancient*

Hindu philosophy and knowledge as very applicable to imagining the 21st century crisis that is

climate change. Doing so would further ensure that India becomes a vital guide to other

societies for saving the world from the worst of climate futures.

Modi articulates a particular temporal relationship throughout all the documents, in which the *past* is a resource to be mined for knowledge, in order to understand climate change in the *present* and so construct potential resolutions of the crisis for the *future*. The texts meant for international audiences consistently emphasize the utility of ancient Hindu ecological philosophy, in conjunction with other bodies of knowledge, for helping India and humanity in general to mitigate and adapt to a future world wracked by climate change. However, in the speeches meant for domestic audiences, this ancient knowledge is presented as the *only* way to save the world from the worst futures of climate change. In fact, as shown below, Modi intimates that successfully meeting the challenge of climate change in the present and future through mobilization around Hindu precepts would represent a fulfillment of ancient scriptures. In three of his texts, Modi cites the *Atharvaveda* repeatedly, one of the four *Vedas*, considered in *Hindutva* ideology the *ur*-texts of Hinduism (Modi 2015c, 2016, 2017).[21] Modi's references to *Atharvaveda* in discussing climate change are divided along several lines. The initial line drawn in several of the texts, especially *Convenient Action*, with Modi repeatedly citing the *Atharvaveda* as his personal inspiration for his understanding the relationship between nature and humanity (2015c). He quotes *Atharvaveda* 12.1.12 in the very beginning of the book's Introduction: "...the purity in us is due to the Earth. The Earth is my mother and I (the seer) am Her son. Cloud is my Father, let that nourish us." (3, 2015c). He follows this by detailing how he was taught as a child to, "ask for Mother Earth's forgiveness" before putting his feet on the

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[21] The *Vedas*, (Sanskrit: **वेद**, "knowledge"), are the oldest body of Sanskrit literature. There are four Vedas: the Rigveda (**ऋग्वेद**, "knowledge of praise"), *Yajurveda* (**यजुर्वेद**, "knowledge of prose mantra"), *Samaveda* (**सामवेद**, "knowledge of song"), and *Atharvaveda* (**अथर्ववेद**, "knowledge of everyday life"). Technically speaking, the *Vedas*, represent an amalgamation of wisdom from two cultures, the fading Indus Valley Civilization (2500-1500 BCE) and the nomads of the Punjab region who later spread throughout the sub-continent as the *Vedics*. For more see Doniger 2007. Politically and socially speaking, citing the Vedas as authoritative texts generally denotes an orthodox or conservative orientation in India today.

ground upon waking each morning. "This, I realised a few years later in life, was the *social integration* of the philosophy of Vedas in India" (ibid 11, emphasis added). The *Vedas* are "the oldest repertoire of ancient knowledge" (11, ibid). The past, in the form of the *Vedas'* ancient knowledge, is not only formative to Modi's understanding of the human-nature relationship, but more importantly, "contain[s] a whole spectrum of knowledge which is now being propounded under various scientific, academic and analytical banners during discussions on global warming, damage to earth's environment, and the resultant Climate Change" (ibid 11). Thus, the Indian religious tradition provides a framework that articulates a place for the humanity as integrated within Nature, a theme iterated in Modi's Samvad speech: "Personally, it is my reading of Vedic literature that educated me about the strong bonds between humans and Mother Nature" (September 2015).

The explicit integration of ancient sacred knowledge and everyday life is a critical part of Modi's climate imagination. The *Atharvaveda* is notable since it is the only of the *Vedas* to provide explicit instructions for practices of daily life, rather than worship rites. These include medical practices, guides to daily life, and even philosophical speculations about the meaning of life and the sacred. In other words, it seeks to act as a guide for how to acknowledge the sacred imbricated in the context surrounding the person in her daily life.

The focus on the individual Hindu is clear in his book, *Convenient Action*. It contains a section explaining "Pledge for Adaptation," which Modi administered to crowds at 50th anniversary celebrations of Gujarat's creation in 2010. The text claims 3,378,911 people took the pledge over several months, it consists of ten commitments the individual promises to complete in their everyday lives. The commitments include planting and caring for trees, conserving water and electricity use, and working to develop villages into models of

development so as to be "resilient" (2015, 213-214). Modi also articulates how the

Arharvaveda's ancient knowledge can assist Hindu policymakers in producing a more

sustainable, cooler climate. Again, in *Convenient Action*, he begins with explaining how this

happened in his personal career. He claims the the harmony between humans and nature

presented in the worldview of the *Vedas* worldview later assisted him to navigate among

multiple viewpoints on climate change, including outright skepticism, as a politician:

> But even in those days of uncertainty and confusion, I based the formulation of public
>
> policy on my conviction of complementary relationship between man and nature [sic].
>
> This helped me to clarify my thoughts and to choose a developmental path that would
>
> lead to empowerment of the poor and downtrodden...(2015c 13).

Ancient Hindu philosophy provides personal guidance for both individual adherents and

policymakers seeking to integrate religious and political frameworks. However, it can also be

applied to society for navigating climate change. At least in relation to the present-day, Modi

articulates the *Vedas* in particular and ancient texts in general as a legitimate form of *public*

knowledge, containing information that presages all modern forms of analysis and knowledge

gathering, including climate science and, conceivably, existing political framings.

Modi also asserts that this knowledge can be helpful for guiding patterns of sustainability

for non-Hindu actors as well.   In his inaugural speech to the UN General Assembly in

September 2014, Modi argued that "India's ancient wisdom" gives the country its sense of place

in international politics, including with regard to facing the challenges of conflict and

environmental degradation. For Indians, "respect for nature is an integral part of spiritualism,"

with yoga being "an invaluable gift of our ancient tradition" that can change lifestyles and

"creat[e] consciousness" in ways that "can help us deal with climate change" (Modi 2015). The

articulation of ancient Indian sacred philosophy as a legitimate epistemology for making present-day climate policy, is also articulated in Modi's March 2018 speech opening the International Solar Alliance (ISA). "Ancient philosophy" is necessary in the search "to find ways to tackle the challenge of climate change." In the case of the ISA, the India-led organization of over 120 states towards more solar power adoption, Modi cites the "unprecedented" place that ancient Indian philosophy assigns the Sun, the "soul of the world in *Vedas*", as a useful guide to present-day attempts to "find the ways to tackle the challenge of climate change" (Modi 2018) Indeed, a successful shift towards solar power would fulfill "the prayer of ancient ages," (*tamso ma jyotir gamay*, "from darkness lead me to the light"), which Modi interestingly translates as "let's move towards light from darkness" (ibid). His slight alteration signifies a motivation for the assembled collected nation-state representatives to coalesce around a common path of action.

In his speech at the inaugural *Samvad* conference on applying Hindu-Buddhist thought to reducing conflict and facing environmental crises, Modi continued the emphasis on the primacy of ancient knowledge for understanding present-day crises (2015b). Uniquely in this speech, Modi speaks to the potential for knowledge in dialogue between Hindus and Buddhists. Framing both traditions as uniquely sensitive to ecological crisis, he claims they are much closer to being "philosophies" that seek dialogue in an unending search for truth, rather than "ideologies" or "belief systems" that close off dialogue and in turn, result in conflict and violence. If the two philosophies are successfully embraced by the world in order to fight conflict and climate change, the 21st century will "be an Asian Century" (ibid).

By emphasizing the utility of ancient Hindu/Indian wisdom, Modi is also presenting climate change as a unique opportunity for India to play a larger role in world affairs. This is India acting as a repository of ancient knowledge of use to the entire world, India as a

Vishwaguru ("world guide," Hall 2016). Modi's framing of *Atharvaveda* anticipates the

contemporary notions of sustainability (that resources must be maintained in ways that allow for

constant replenishment into the future) and ecological debt (the despoiling of natural resources

and spaces in ways that prevent future generations from accessing them) (Modi 2015b). The

UN's conceptualization of ecological debt was embodied the "very same" way by two hymns

from "thousands of years ago" (ibid). Indeed, Modi repeatedly says that the environmental and

climate mitigation/adaptation initiatives begun under him in Gujarat. Inspired by his experience

of, "having been an ardent follower, [...] of a nationalistic ideology," he welcomed what could be

termed modern or secular knowledge actors, including "scholars, researchers, scientists, leaders

and policy planners" to "measure and judge them against any yardsticks of scientific and

analytical scrutiny" (ibid 13). Thus, the mitigation and adaptation initiatives inspired by the

Vedas can stand up to modern scrutiny. This thought is echoed in his "Knowledge is Immortal"

speech, in which India's sacred climate initiatives should be put "in front of the world on a

scientific basis" (Modi 2016).

Modi also exhorts the usefulness of India's ancient wisdom as a guide to the world

through the difficult present era (Hall 2016) Modi blames previous governments for their

disinterest in international environmental and climate regimes (April 2015). India, he claims, has

always been a place "where nature is considered as God, where the worship of nature has been

considered meaningful and where the protection of nature is concerned with human

sensibilities," a unique statement among nation-state parties (2015a). Interestingly, he attributes

India's hesitancy in proclaiming its environmental wisdom to "being enslaved for centuries"

which in turn caused the "spiritual knowledge" to be "largely confined to books" (ibid; Modi

2017). Indeed, "only if we are able to bring the texts, that have been our traditions, into practice,

will we be able to fight the challenge of climate change. Our entire *Rigveda* is dedicated to this"

(Modi 2017). The contemporary inability to practice the sacred texts, to bring them into the

world is very different from "a time when the leadership was under our country's saints" (ibid

2017). Indeed, he argues the "world" should rather recognize "that India should take the

leadership to save the world in this area" (ibid). And, "we have inherited it [traditions of non-

exploitation] for thousands of years, [and so] can lead the way to saving the world from this

crisis" (ibid). Notably, climate initiatives are just one part of India's service to the world since

Independence, since it "is a country that has been persistently striving for justice, dignity,

opportunity and prosperity not only for herself but also for the entire world. You are aware that

the International Solar Alliance was launched last year" (October 2017). India's international

leadership on climate change is thus an exercise in making ancient Hindu scriptures and wisdom

manifest in the real world.

Throughout these documents, Modi articulates India as a crucial state actor in an era of

anthropogenic climate change, based on its ancient and religious knowledge. India is an agent

that constructs temporal frameworks of a global phenomenon that can be of use beyond the

state's borders. There is a sense of creation here, even notions of India as a hero who can lead

the world in a turbulent time. The discussion of comparing the threats from climate change to

present or future generations leads directly into when climate change is said to come into

existence.

3.2. *Timing the Manifestation of Climate Change*

As referenced in previous chapters, there are three aspects of timing climate change as a

phenomenon. The first we have explored is timing the origins of climate change, dating its past.

The second timing estimates or predicts when climate change can be said to have "arrived,"

specifically as a crisis having clear, experienced impacts to the extent that it cannot be ignored. This can range from claims that climate change is a concern for the future, whether several years, decades, or even centuries ahead. The third aspect of actors timing climate change involves a justification for taking political action or not in the present day. Modi generally times climate change as either already manifest or occurring within the short-term future.

In timing the origins of climate change, Modi takes a different tack from previous state documents that spoke almost exclusively of the west's historical responsibility. Instead, Modi repeatedly refers to climate shifts to imbalances in "Nature" and the individual. In *Convenient Action*, for example, he outlines the five natural elements: earth, air, water, solar energy, and sky. Modi argues that Human exploitation of these elements causes disharmony, leading to "pollution and will promote selfishness, instincts of violence, jealousy...And this is precisely what happened during the last hundred years" (2015c 12). Thus, this is a cycle of resource exploitation that leads to environmental degradation and in turn, increased resource exploitation and violence. This violence and conflict goes beyond just human communities, including the currently adversarial relationship between "nature" and "man," "development," and "science" (Samvad 2015). The imbalance is also within the individual, "the eco crisis, in fact, is reflection of imbalance of mind" (ibid). This focus on the imbalance in the individual resulted in his "Pledge for Adaptation," (2015c 213-214).

He also describes *existing* and *near-term* climate change effects on human environments in Gujarat during his tenure as Chief Minister, including receding water resources and more intense droughts, what he calls "climate shocks" (2015c 217). In the book's conclusion, he refers to climate change as an issue of "urgency," and "a planetary emergency." Indeed, "time is running out and with each passing month, year and decade the ecological debt of future

generation is mounting higher and higher [sic]" (ibid 217). In several of the speeches, he claims

climate change as one of the primary crises facing humanity in the present, or as a "pressing"

challenge (Modi 2014):

> In my view, the most adversely affected by climate change are the poor and the downtrodden. When a natural disaster strikes, they are hit the hardest. When there are floods, they are rendered homeless; during a quake, their homes are destroyed; during droughts, they are affected; and during extreme cold too, the homeless suffer the most. (Samvad 2015)

Despite "climate change" being partially conflated with mundane natural disasters, the sense of

increasingly intense and routine climate disruptions in the present-day is clear.

> In line with most previous climate documents produced by the national government, the present and future of climate change is entwined with the nation-state's development efforts since 1947. *Convenient Action,* for example, continuously refers to climate change as both a potential block to the country's historical efforts to reducing deep and endemic poverty as well as a challenge that can potentially be folded into the state's development timescale. For example, Modi refers to the green initiatives he started in Gujarat as a synthesis of "the dichotomy between dominant interventionist model of development and decentralised participative model" (2015c 13). Later he claims climate change as simultaneously an environmental and development issue (ibid 122).
> In fact, the entirety of the book is devoted to outlining initiatives that Modi's

administration conceived of or financed to ameliorate environmental issues that negatively

impacted development efforts. However, only a few of the issues discussed can plausibly be

considered as an effect of climate change in Gujarat, including increasing droughts and water

shortages, the importance of shifting away from fossil fuels to solar and wind power, "capacity

building," and ensuring sustainable coastal livelihoods. Echoing themes developed by PM

Gandhi in her 1972 speech, a major theme of the book speaks to the potential synergy between

adaptation and mitigation efforts and the state development projects. However, the remainder of

the issues discussed are local ones, representing a broad link between environmental and quality

of life issues, like heavily polluted rivers, reducing urban traffic, and planning to re-populate

forests that are cut down for development or industrial projects (2015c).

3.3 What kind of threat is climate change?

Throughout the documents I have explored so far, Modi references several major threats posed

by climate change. First are those posed to some "islands and countries which face direct threat

to their existence" (Modi 2017). Second, he argues climate change most adversely affects the

poor, irrespective of their country. Finally, he claims that "humanity" as a whole is under threat

(Modi 2014, Modi 2015b, Modi 2017). He, interestingly, never explicitly says that "India" is

under threat; rather climate change is largely a worldwide "challenge," that can be successfully

resolved if both societal and individual lifestyle shifts are made: "collective human action and a

comprehensive response" (Samvad 2015). Almost the entirety of *Convenient Action* is focused

on explicating the initiatives Gujarat state took, either in guidance or in finance, ostensibly to

mitigate carbon emissions and adapt to climate shifts and shocks but for the most part treat local,

development issues. "India," in contrast, is a subject that offers more to the world in terms of

sacred, ancient philosophy, than it is threatened by climate change. For example, he claims that

these efforts have been largely successful in preparing Gujarat for the any future ecological

crises:

> this compilation of our diverse actions on Climate Change adaptation and mitigation
> would be a humble reminder to the world community of politicians, both in developing
> and developed worlds, th*at the divide between political cycle and carbon cycle can be
> filled by firm determination and resolute will.* This might even set tone for collective
> action worldwide, even in absence of formal multilateral frameworks." (228, emphasis
> added).

In general, then, climate change is a significant crisis, as it is the culmination of over a century of

societal and individual imbalance and conflict with nature. However, it is not only manageable,

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but actually presents an opportunity to set the world onto a new, more sustainable and spiritual path.

4. Conclusion

Following two decades of long efforts to articulate a diachronic imaginary of climate change in international environmental political and scientific discourses and institutions like the UNFCCC, the national Indian government largely acquiesced to developed state and least developed state *synchronic* positions: committing all states to some measure of responsibility for mitigation and adaptation and accepting the legitimacy of using regional and global models of potential climate futures to guide actions in the present. I argue that giving in on long-held positions and imaginaries meant that the state, under PM Modi, turned to religious discourses and sacred language as resources through which to continue to frame climate change as comprising multiple temporalities.

The chapter explored the three characteristics of this sacred-inspired imaginary: (1) India's past is something to be proud of, and a useful resource for the entire world; (2) climate change effects are already impacting human communities and will intensify for the foreseeable future; and (3), climate change is a considerable crisis, but one that India and the rest of humanity under its leadership is capable of adapting to. Climate change, in fact, is an opportunity for India to shake off its post-colonial insecurities as a member of the international political and economic system. India no longer bases its contemporary imaginaries of climate change on a narrative of victimhood of western colonialism or uneven political and economic power systems; it is a *Vishwaguru*, a teacher to the world. And in contrast to its past constructions of solidarity with other developing and South states in order to ground its bargaining power, India is now strong enough to stand alone as a leader.

Indeed, Modi presents India as a unique actor from other states. First, Modi embeds climate change within other timescales of Hinduism as a tradition and the development mission of independent India. Second, rather than being a phenomenon that completely overwhelms existing frameworks of human knowledge, the processes and effects of climate change are actually anticipated in the *Vedas*. Finally, while Modi frames his religious claims as a way of setting India apart from all other states, he is also calling for the harmonization of international climate politics with India's guidance, and in line with ancient Hindu philosophy.

Yet for all the changes to the state's temporal imaginary articulated over the preceding 25 years, some of Modi's imaginary echoes his predecessor's over 40 years prior. In the temporal imaginary outlined by PM Gandhi in 1972, she references a childhood in which she grew up in full "kinship with nature"; one cannot be "truly human and civilized" without recognizing this kinship (1972). She mentions both Emperor Ashoka and the subcontinent's traditions of sustainability as offering wisdom to "modern man." She even ended her speech with a quote from the *Artharvaveda* that she links to ancient India's principles of sustainability. Both Prime Ministers reference temporalities that transcend those associated with "India" as nation-state or British colony. In this way, they challenge attempts by synchronized accounts of environmental and climate political temporalities to fully encompass or overwhelm them.   In these ways, Modi's climate imaginary resembles less of a novel shift and more a return to a state imaginary of world political time that is at the heart of the country's expression of itself in global governance forums.

The primary difference from Gandhi is Modi's use of religious-nationalist concepts, whereas she never explicitly refers to Hinduism in her speech. In engaging in *Hindutva* ideology, Modi is attempting to stoke interest in climate change as a domestic political issue and

one inseparable from the Hindu nationalist project and hence, one that can never be co-opted by synchronic or secular counter-discourses. To be a good Hindu, one must be sustainable in everyday life; to be a good Hindu nation-state, one must offer a guide of how to live, produce, and consume to the rest of the world.

The exclusion and violence that is at the heart of *Hindutva*, the framing of nationality through an explicitly homogenized and orthodox religious worldview might make one wary of attempts at using a religious discourse to construct political temporalities of climate change. However, as I discussed briefly in this chapter's introduction, the sacred dimension can also be a very useful register for transcending the nation-state imaginary in trying to envision a fuller representation of climate change. As Amitav Ghosh points out in his comparison of the language in the Paris Agreement and Pope Francis's encyclical letter *Laudato Si: On Care for Our Common Home*, there is a distinct difference between secular and sacred frameworks for how they adhere to existing norms and institutions in imagining climate change. While the two documents share some common ground, namely the acceptance of climate science research and the acknowledgement that human beings are largely responsible for the changes in climate, the similarity ends there. Overall, Ghosh identifies an almost utopian vision underlying the UNFCCC text, including a "giddy" and "euphoric" modernist belief in its own significance, the promise of soon-to-be implemented technologies like biomass energy carbon capture and storage, the ongoing belief in "dominant paradigms" like perpetual economic growth (2015, 150-160). The Paris Agreement essentially envisions a global future in which humanity resolves the threat of climate change with little change to modernist norms, institutions, and assumptions about politics, economics and the logic of perpetual growth.

In contrast, *Laudato Si* does not expect "miraculous interventions" to resolve climate change absent any foundational disruptions to existing political and economic practices and systems. "It strives instead to make sense of humanity's present predicament by mining the wisdom of a tradition that far predates the carbon economy" (Ghosh 2015, 153). Ghosh argues that religion can be used to transcend the limitations embedded in the nation-state's commitments to existing imaginaries and institutions. Engaging with the sacred can open up, rather than close, the potential for including the temporal imaginaries of those usually excluded from the nation-state.

Ch. 6 - Conclusion

> Are our articulations of the global doomed then to the historical power and poverty of our colonial modern, exclusively national, imaginations? Those concerned with political transformation can think about constituting the global in ways that are empowered by the national imaginations they inherit but also go beyond them in many important ways. (Muppidi 2004, 99)

> One might think of independent India as being Europe's past as well as its future. It is Europe's past, in that it has reproduced, albeit more fiercely and intensely, the conflicts of a modernizing, industrializing, and urbanizing society. But it is also its future in that it anticipated, by some fifty years, the European attempt to create a multilingual, multireligious, multiethnic, political and economic community. (Guha 2008)

> Curiously, all the real *practitioners* of sustainable development, who live below the limit – fishermen, sewerage workers, small farmers, indigenous peoples, waste-pickers, *Dalit* manual scavengers, Muslim artisans, butchers, women, backward castes, Buddhists, *Ramdasis*, *Kabirpanthis* – have been relegated to the bottom of the Vedic hierarchy for centuries by the Code of Manu. (Roy 2018, emphasis in original)

1. Introduction

On September 5, 2014, Teachers' Day, the national government directed schools across the country to televise Prime Minister Modi's speech in honor of the holiday. Besides the expected charges from opposition parties that the address amounted to state propaganda, many critics picked out one of Modi's remarks for particular scrutiny. It came in response to one of a series of questions posed to Modi by students video conferencing in from across the country. A student from Assam, citing many of the state's residents' fears regarding the territory's susceptibility to climate shifts, asked, "How can you help and guide us to protect our pristine environment?" (All India Radio 2014). Modi responded, "Climate has not changed. We have changed, our tolerance and habits have changed. If we change, then God has built the system in such a way that it can balance on its own" (ibid). He continued for several minutes expounding on how traditional Indian and Hindu philosophy could be useful resources for balancing the relationship between

humanity and nature. Critics charged that Modi's answer, seeming to argue that it was merely human perceptions of nature that were changing, was outright climate denialism, a more common charge in western societies, the United States especially, than it was ever in India (Mehra 2014). Bharatiya Janata Party (BJP) officials argued that Modi was mistranslated by media outlets (the student asked her question in English while he responded in Hindi) and that he indeed fully affirmed scientific assessments of measurable shifts in the physical climate (ibid, NDTV 2014).

This episode encapsulates the three overarching arguments I make in this dissertation. The first is that the overriding source of disorientation that existing political frameworks and institutions experience when envisioning climate change is temporal in nature. The second argument is that India responds to this temporal disorientation by constructing imaginaries of political time that in turn leads it to adopt specific political interventions. India's most notable interventions at the UN Framework Convention on Climate Change (UNFCCC) have concerned the criteria according to which agents, usually nation-states, are assigned moral or financial responsibility for mitigation and adaptation efforts. Third, the parameters of India's temporal imaginary of climate change have shifted according to whether it accepts or rejects the synchronic temporality articulated by western states. Taken together, my analysis of State documents highlights a robust, national imaginary of climate change, one that time and again highlights the incompleteness of globalized, synchronic imaginaries. The first half of the chapter will review these arguments.

But, as Muppidi argues above, acknowledging the existence of multiple nation-state temporalities that constitute a common "now" of climate change, and by extension, world politics, is only the first step to envisioning the phenomenon as an issue for the world, not the

globe. If "globe" refers to a synchronized or universalized notion of political space and time, I use "world" to refer to a patchwork of temporalities, polities, and forcefields of human and non-human agents that, taken together, offer a fuller, but never total, view of "now" (Hutchings 2008, Ling 2009, Walker 2010, Connolly 2013). In response to the material and conceptual transformations embodied by climate change, one must consider first how nation-states including India treat the multiple sub-national and trans-national temporalities that *interact* with each other. As Roy argues above, constructing a nationalist imaginary of political time involves marginalizing and homogenizing those temporalities that do not fit within the synchronized narrative of the State. Successive Indian governments articulated a diachronic imaginary of climate change in international forums like the UNFCCC, while simultaneously offering a synchronized imaginary when speaking to domestic audiences, a homogenous Indian political time. Domestically, the national government has nearly consistently affirmed a historicist hierarchy between modernity and non-modernity, the sacred and secular.

Modi's discourses, despite their embedment within a right-wing Hindu nationalist ideology, are the first by an Indian national representative to treat sacred and ancient bodies of knowledge as co-existing with secular, modern epistemologies when envisioning climate change, as sharing the same present and "now." Modi's affirmation, rather than denial, of co-evalness between these temporalities offers novel ways for theorizing and adopting a heterotemoral orientation in world politics and world history (Fabian 1983). At the same time, his climate imaginary is embedded within a synchronic, nationalist one that excludes sub-national and sub-altern temporalities, just as global imaginaries ignore the multitude of national ones. The insights gathered from the analysis of Modi's discourses come in spite of, not because of, the fact that his climate imaginary is embedded within an exclusionary, ethno-religious nationalism. I take

seriously the violence perpetuated against minority communities under Modi's tenures as Chief

Minister of Gujarat (2001-2014) and Prime Minister of India (2014-present), especially Muslims,

dalits, *adivasis* (indigenous), and Christians.

However, I treat the violent exclusion at the heart of Modi's Hindutva ideology and the

novel way he imagines climate change as a productive tension. The second half of the chapter

takes up Muppidi's challenge to simultaneously acknowledge and transcend the national-global

framework, a conceptual binary that does not match the heterotemporal reality of climate change.

The first step is to analyze the interactions *between* multiple national, transnational, and

subnational temporalities, how they affirm, cancel out, or run parallel to each other as *chronotic*

and *kairotic* times. In addition, an authentic adoption of a heterotemporal orientation, whether

by an institution or theorist, must involve treating sacred temporalities as *co-eval* and *co-existent*

with secular temporalities. Sacred temporalities, owing to their transcendence of modernist

imaginaries which are limited in their ability to encompass climate change, offer useful ways for

imagining climate politics beyond the architecture of the nation-state.

2. The Centrality of Time To Indian Climate Politics

The outlines of likely climate futures are vague but perceptible: even a "moderate" rise in

average global temperature, say 1.5º or 2ºC over pre-industrial times, will result in billions

driven to extreme food and water insecurity, the mass migrations of hundreds of millions, and

profound social, political, and economic disruptions (IPCC 2018). And locales will experience

these shifts and disruptions at different intensities and tempos. At the heart of these explicitly

catastrophic futures is the dissertation's first overarching argument, namely that questions of

temporality lie at the heart of the disorientation that existing systems of international politics

experience when coming to terms with climate change's challenges. The relationship between

climate change and human communities straddles individual, communal, and non-human temporalities and tempos (Markely 2014). The resulting blurring of the temporal relationship between human and non-human factors makes it difficult to make predictions with accuracy, nor grasp the chain of causation between factors.

In trying to envision potential risks and policy responses, a geographically large and heavily populated country like India embodies a cacophony of times, tempos, and temporalities. Climate change involves interactions between varying natural times (the speed at which greenhouse gas emissions concentrate in the atmosphere; the different melting rates of the Eastern and Western Himalayas) and human temporalities of experience, impact, and awareness. In addition to the unpredictability caused by the sheer number of times involved, there is significant uncertainty in timing the causal interactions between human and non-human factors. Climate scientists can project, with some certainty, the causal relationship between greenhouse gas emissions and the rate at which the average global temperature rises and so offer states some knowledge about emissions reductions proposals. At the other end, phenomena like the weakening of the jet stream or the massive release of methane from melting tundras in Siberia and Canada are much less predictable, let alone able to be timed with accuracy nor their effects. The modernist assumption that humanity can act on the natural world with predictable results no longer holds (Markley 2014). The disorientation brought about by this confluence of human temporalities and non-human times is evident in the student's invoking of the widespread unease among Assam residents about what future shifts in the climate have in store for that particular state and her seeking guidance from Modi. Given the paucity of scientific knowledge, even in 2018, about the physical dynamics that constitute the Earth's climate, it is no wonder that states, India included, have relied extensively on constructed *imaginaries* in order to shape the types of

interventions it articulates. In other words, in the face of such radical uncertainty, coupled with

the feeling that some form of action must be taken in the present, "we should be witnessing shifts

in the political imaginary through which the governance of future uncertainty becomes identified

as a vital imperative and political rationalities and interventions aimed at more actively

controlling the unfolding of time itself are prioritized" (Stockdale 2015, 28). Like all other

nation-states faced with this temporal disorientation, the Indian state has engaged in a series of

discourses that re-shaped its existing temporal imaginary and in turn resulted in particular

interventions being made. The State's engagement in the three discourses (international

environmental politics, climate science, and religion) respectively demonstrate India's attempt to

treat climate change as a political phenomenon by making interventions at the UNFCCC,

especially in terms of determining state responsibilities.   Since the primary form of climate

change's disorientation is temporal in nature, the interventions meant to give meaning are

similarly temporal.

Recalling the distinction made in chapter 1 between "timely" and "untimely"

interventions, the former fit into hegemonic conceptions of the quality and tempo of political

time, while the latter challenges them (Brown 2010, Hutchings 2012). This distinction brings us

to the dissertation's second argument, namely that the particular interventions India chose to

make depended directly on its particular orientations to the past and the future, the parameters for

any imaginary of "now." In the case of India's climate politics, the State has consistently

articulated the present from a post-colonial temporal identity, generally past-oriented and

ambivalently alternating between narratives of victimization or of pride (Bhabha 1983). British

rule, and the ideologies of racial superiority that motivated it, combined to impoverish Indian

societies materially, ecologically, psychologically, and spiritually (Nandy 1983, Hobson 2008).

Or, the nearly 200 years of rule first by the British East India Company and then by the United Kingdom, simply pales in comparison to the thousands of years of cultural, technological, and philosophical traditions and resources developed throughout the subcontinent and in relation to Hinduism. India's earliest temporal imaginary of climate change, embodied in the intervention of arguing for strong differentiation between developed and developing state responsibility, relied on the *negative* articulation of History. Post-colonized societies like India were stripped of natural resources and ecological balance between human and natural forces. In turn, Western states who industrialized first owing to the material enrichment of being colonial powers simply meant that they have contributed much more to climate change than post-colonial states. However, the fact that neither of these past-oriented imaginaries would be countenanced by the synchronic imaginaries set out by western states, was made clear early on. By the time India and other developing states entered the burgeoning international discourses on climate change in the late 1980s, they faced an existing set of synchronic, globalized discourses. These discourses did not consider the History of western colonialism as a legitimate temporal parameter for determining the temporal parameters of present-day international climate politics. Western states consistently treated arguments in favor of historical responsibility as irrelevant, oriented as it is to a past seen as irrelevant to "world history" (Rajan 1997, 23-28). As a result, they could not understand, let alone accept, diachronic imaginaries that were grounded in colonial pasts. India's temporal imaginary of climate politics remained past-oriented from the late 1980s through the early 2000s. The State's orientation to the abovementioned imaginaries of the past were clearly articulated in its arguing in favor of historical responsibility.

The *future* featured only marginally in India's imaginary through the early 2000s, referenced obliquely in terms of the State's responsibility for continuing development efforts

indefinitely, regardless of any potential climate shifts. The State did not begin to treat the future as a serious component of its temporal imaginary of climate change until it began to treat climate science as a legitimate body of knowledge. As their capacity to model changes in the physical climate at larger spatial and temporal scales grew, climatologists began to frame climate change as a phenomenon that was a future, global problem that must be prepared for in the present. Though its origins lie in the Industrial Revolution, carbon emissions were often dated from the very recent past or present (IPCC 1990, WRI 1991). Developed states who first raised climate change as an international issue in the mid-to-late 1980s relied on these scientific imaginaries to articulate climate change as a phenomenon that all of humanity was simultaneously responsible for and threatened by. Thus, India's original argument that the political and economic origins of climate change are critical for understanding its present-day manifestation and possible future resolutions, i.e. the principle of historical responsibility, represents an "untimely" intervention, one that did not fit the hegemonic principle of a singular, global time.

In contrast with the ambivalence the Indian state treats its past, the State's imaginary of the future, is generally optimistic regarding its ability to transcend the backwardness imposed by colonialism (Chakrabarty 2018). The State's legitimization of climate science, however, raised the specter of catastrophic climate futures that would indeed disrupt or even setback the teleological timeline of progress and development originating in Independence. Despite the Indian state's initial suspicions of synchronic political imaginaries initiated by scientific models, it started to legitimize them by the mid-2000s. The growing acceptance of scientific discourses marked a significant reorientation of the State's temporal imaginary, leading India to increasingly make "timely" interventions at the UNFCCC. Following the publications of the 2007 4th Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) and the

2010 "4x4" Report by the Indian Network for Climate Change Assessment (INCCA), the government switched from basing its assessment of the "present" on the past of colonialism to constructed, potential futures. This re-orientation towards the future led India to increasingly accept a less, not more, differentiated architecture of responsibility between developing and developed states, culminating in the Paris Agreement. India's acceptance of the IPCC and INCCA reports meant accepting their dire models of future climate shifts that would severely disrupt its future plans of poverty elimination. In making political decisions based on these modeled futures, the State began to articulate a climate politics based on *anticipated* futures, not a *remembered* past. In doing so, it turned from using the past of colonialism as the basis for its climate politics, to envisioning a range of potentially disruptive futures. In this case, adopting an anticipatory orientation has also meant emphasizing less the responsibility of other states and more the necessity of India taking on the responsibility to prepare and adapt.

However, moving closer to a synchronic position on assigning state responsibility starting in the mid-2000s did not mean India gave up on articulating a diachronic imaginary completely. Instead, the Indian government under PM Modi has emphasized religious rather than scientific or post-colonial imaginaries when conceptualizing climate change for domestic audiences. In this way, Modi has been successful in maintaining the State's traditional rhetorical resistance to synchronized imaginaries, this time relying on religious rather than secular discourses to highlight the plurality of temporalities at play. He articulates a non-conflictual relationship between past and future: ancient Indian philosophy and religious tenets can act as guides for India and other societies going forward. If successfully acknowledged and adhered to, this ancient knowledge could ensure climate change remains a crisis, rather than an existential catastrophe that threatens human civilization. Altogether, Modi's reliance on religious language

allows him to argue that not only is India responsible, along with all other nation-states, for

mitigating and adapting to climate change, but also that it is an opportunity to share India's

ancient wisdom with the world. Similarly, responsibility is not just a a matter for nation-states,

developed and developing, but also individuals, especially Hindus, another significant shift in

discourse. India's recent turn to framing climate politics from a future-oriented perspective is

evident in the student's question and Modi's response. Rather than focus on the culpability of

developed states in terms of the origins of climate change, both the student and PM Modi show

concern with imagining likely, future threats to the country and what both the state and

individual Indians can do to prevent them. Under Modi's tenure, then, the state has started to

make timely interventions internationally, and untimely ones domestically.

A notable feature of Modi's imaginary is that the State can be simultaneously oriented to

the past and future, rather than treating them as mutually exclusive, as in previous state

imaginaries. In the earliest years of the international climate governance regime, a future in

which India took on moral and financial responsibilities for mitigating and adapting to climate

change was envisioned as likely to severely impact the State's ongoing project of national

development that the country has articulated since 1947. Later, in the mid-2000s, India's

legitimization of climate science meant that concern shifted to how a future of severe climate

change would impair development and economic growth. The historical origins of climate

change lost their importance, now viewed as detrimental to the state's efforts to be seen as an

"active" participant in post-Kyoto Protocol talks (Ramesh 2009). Modi's imaginary, by contrast,

presents the relationship between past and future as complimentary. Ancient cultural and

religious knowledge supports, rather than detracts from, efforts of modern society to adapt to a

future of massive climate change. In this way, the "untimely" invoking of History domestically

provides the foundation for India to assume a "timely" role in international climate politics, a

Vishwaguru (Hall 2016). For example, Modi exhorted the world to practice yoga at the 2014 UN

General Assembly meeting and cites from the *Artharvaveda* when he opened the Indian-led

International Solar Alliance.

Modi's mix of timely and untimely interventions highlights a very important aspect of

analyzing the Nation-State's temporal imaginary of climate change. Beyond simply identifying

the plurality of temporalities at play, the analyzed documents demonstrate considerable attention

given by state actors to how various imaginaries of political time *interact* each other. Analyzing

the relationship between political, scientific, and religious temporalities of the past, present and

future, as articulated in the State's temporal imaginary, has been a major aspect of this

dissertation.   The ways the State articulated how these multiple temporalities related to each

other represent a struggle to articulate the relationship between between *chronotic* and *kairotic*

temporalities, namely how they intersect, change, and disrupt each other (Hutchings 2008).   As

Hutchings argues, the two terms can capture a range of meanings of political time. Generally,

however, *chronos* refers to "normal time" while *kairos* refers to the time of the exceptional, that

which lies outside the time of everyday life (2008, 5).[5] The exceptional here can refer to

human, non-human and sacred interventions, or interruptions, that change the course of mundane

time, or initiate a new era altogether. Together, the state's articulations of the relationship

between *chronos* and *kairos* constitute the State's imaginary of the present.

Prior to Modi, the Indian State generally treated temporalities as potentially interrupting

each other.   Modi's effort to make multiple epistemologies and their associated temporalities

complimentary, rather than disruptive, to each other, leads to the final argument I make

throughout this dissertation, namely, that at the core of the transformation of the Indian state's

temporal imaginaries of climate change over the last thirty years lays its ambivalence about treating the "present of western modernity" as the reference point for "drawing general conclusions about the meaning of the present" (Hutchings 2008, 74). Synchronic, scientific, and secular accounts of climate change are all to some extent based on epistemologies arising out of western modernity. To resist referencing the west and its experiences, India articulated political and scientific discourses of climate change that were specific to the sub-continent. The State maintained a uniform temporality in both international and domestic spaces. Past-oriented and future-oriented imaginaries were treated as mutually exclusive. However, Modi's reliance on religious and sacred discourses to maintain India's climate temporality as distinct from the west is notable for its integration with scientific worldviews.

In effect, Modi constructs a very different relationship between *chronos* and *kairos* than those articulated in the Indian State's previous imaginaries. First, contra the modernist presumption that humans can construct futures without any thought given to nature, Modi fully acknowledges the power of nature, personified in a sacred Mother Earth, to disrupt human temporalities. But conflict between humanity and nature is not a given, rather a choice. Second, Modi's imaginary simultaneously accepts the legitimacy of multiple times and temporalities in constituting political time. The post-colonial insistence on the past is acknowledged, though from a position of pride, a source of ancient wisdom that can benefit humanity in the present. Modi also accepts the scientific framework of climate change as a clear, present-day and future threat to human societies, India especially, requiring the state to accept some responsibility along with developed states. Finally, Modi uses sacred and religious worldviews to mobilize climate change as a domestic political issue, one that affects and impacts individual Indians and the State as a whole. In the episode cited at the beginning of the chapter, Modi's critics argued that his

referencing a religious epistemology of climate change meant that he was automatically denying the scientific epistemological imaginary. Instead, I agree with his defenders, that for Modi, the scientific and religious imaginaries of climate change are complimentary rather than disruptive. Very similar thinking lies behind western state critiques of post-colonial states' insistence on bringing up the fuller political and economic history of climate change. But the integration of multiple epistemologies allows for a more encompassing, heterotemporal imaginary of climate change that more closely mirrors its multifaceted reality.

Together, I have argued that State temporalities of climate change must be at the heart of any analysis of international climate politics (Ibid 2016). Nation-states inhabit a plurality of "nows" based on their respective orientations to the past and to the future. This plurality offers a more encompassing understanding of the political nature of climate change than do synchronic imaginaries. India's specific temporal imaginaries of climate change are an important part of this story, owing not only to the state's considerable influence in world politics and today, the third largest state emitter of greenhouse gases. India's case is also important since it has consistently and explicitly emphasized the role of time in its political interventions. Each of the three discourses India engaged in highlighted new temporal facets of Indian climate politics. In line with Muppidi's quote from the beginning of the chapter, the double bind lies in both inheriting national temporal imaginaries while also going beyond them.

If Guha is right in his quote at the chapter's opening, that India actually represents one possible future of transnational democratic polities in addition to Europe's example, Modi's integration of epistemologies and worldviews, especially between sacred and secular, is instructive to theorists of world politics as a whole. Is it possible for a polity or institution, whether a nation-state like India or an institution like the UNFCCC to inhabit multiple

temporalities without reference to a singular, hegemonic temporality? Is a political actor's agency dependent on adhering to a single temporality by marginalizing and historicizing alternative ones? The remainder of this chapter explores potential ways for re-conceptualizing political time beyond the modernist bind of the nation-state, namely through engagement with religious and sacred imaginaries. I briefly compare PM Modi's treatment of the "sacred" with that of India's first Prime Minister, Jawaharlal Nehru, in order to identify their very different ways of imagining the nation into being.

The first step towards theorizing a heterotemporal orientation is to acknowledge the multiplicity of temporalities that the nation-state contains, many of which are not included in the national "present." The second way to expand our conceptual register of political time is to treat secular and sacred temporalities as co-existent with each other. I argue that, in contrast with secular political and scientific discourses, religious and sacred discourses can play a role in conceptualizing untimely, trans-national imaginaries of climate change. Religious and sacred frameworks can provide new ways of conceptualizing the complex entanglement of multiple human and non-human temporalities initiated by rapid climate shifts. Modi's attempt demonstrates that rather than learning from other's examples, India, and by extension other post-colonial states, can actually teach western states and theorists alike about potential political and climate futures.

3. Untimely Interventions Beyond the Nation-State

Identifying multiple political temporalities is only the first step in treating climate change as a political phenomenon. The second step is to analyze how these temporalities are imagined as interacting with each other. The criteria according to which polities and institutions hierarchize multiple temporalities are the same as those long used against non-western societies, those

communities and polities whose political temporalities have long been denied legitimacy, or co-existence with the "present" of western modernity. Vasilaki refers to this as "post-western" world politics, in which western modernity is one of many "nows" which can be used to identify the present of world politics (2015). But acknowledging the heterotemporal nature of world political time is just the initial step; what follows is a post-colonial politics that directly challenges the legitimacy of western modernity to act as *the* lodestar of world political time**.**

First, as the quote from Roy at the opening of the chapter makes clear, the climate friendly "India" imagined by PM Modi depends on synchronizing a wide range of communities according to existing social hierarchies. If being environmentally conscious in one's everyday life is treated as synonymous with being a "good" Hindu, then being a non-Hindu by default makes one part of the problem, rather than the solution. The same texts Modi uses to articulate "Rising India" as an example of how societies can be sustainable are used to silence the presences of a sizable group of subaltern communities. At the same time, the fact that the per capita carbon footprint of middle-class and upper-class Indians is near the levels of other societies' elites, developing and developed, is also ignored in the State's temporal imaginary (Sridhar 2018). It is also clear that urban and rural communities face very different threats to livelihoods, health, and infrastructure.

Further, just as western states judged India's attempts to bring in its colonial history to the climate regime as a stubborn tie to the past, rather than the present, India-as-nation-state treats these figures as inhabiting a past time. Often, the subaltern figures that have haunted the Indian nationalist imagination and those under severe threat from climate shifts are the same: *dalits*, *adivasis*, the poor, and women (Guha 1983). As living anachronisms within the modern nation-state, they are treated as *pre-political*. However, they are simultaneously fully political

agents, citizens of the state. Chakrabarty cites their experiences of and subsequent narratives about time as highlighting, "a disjuncture of the present with itself" (2000, 109). The communities who we can say practice a form of subaltern sustainability, face threats from rapidly shifting climate dynamics that manifest themselves at different rates and times, and varying likelihoods. In analyzing Indian climate politics, methodological nationalism, the analytical prioritization of the nation-state over all other units, makes it easy for these communities and their temporalities to be ignored by both the State and theorists. My own analysis has mirrored the State's near-exclusive focus on the multiple temporalities *between* nation-states and in doing so ignored sub-national temporalities. Nationalist imaginaries in effect mimic international discourses by synchronizing a wide range of narratives and experiences, pasts and futures, into one, uniform temporal narrative. In other words, speaking of an "Indian" temporal imaginary of climate change is just as problematic as articulations of a "global" one. (Sridhar 2018). In contrast, my study has illuminated how the supposedly homogenous imaginary articulated by successive national governments conceals a highly heterogenous web of actors, interests, and notions of political time.

But to say that the nation-state marginalizes and reifies a diverse range of communities in order to speak with one voice is not a new observation (Anderson 1983). In this way, Modi does nothing different from his predecessors, whether PM Indira Gandhi or PM Jawaharlal Nehru. Throughout this dissertation, I have generally engaged with just one concept of imagination in order to think through how the actor and theorist can transcend both the immediate moment as well as consider the basic contingency involved in the past manifesting in this particular reality of the present. While this kind of imagination is useful in some aspects, Chakrabarty argues that it is inseparable from a historicist orientation, one that treats aspects of daily life, like the sacred,

as anachronisms rather than "existentially coeval with the human" (ibid 16). Chakrabarty

describes a notable account of PM Jawaharlal Nehru's questioning peasants on their

understanding of the term, *Bharat Mata* ("Mother India"). The one peasant answer conflated

India with *dharti*, the earth under their feet, a claim based neither on rational assessments of the

meaning of the "nation" nor as a matter of experiential truth, actually transcended the necessity

of the experiencing subject. Frustrated with a response based on a fundamentally different

political imaginary than his own, Nehru asked them to consider the millions of people across the

subcontinent who made up the nation (Nehru 46). What would come to be called the Nehruvian

consensus, a self-described secular and rational political imaginary, allowed itself to imagine

"India" over and around a plurality of non-subjectivist imaginaries. One important question for

future research is the role that these latter imaginaries play in popular understandings of climate

change.

Nehru also repeatedly spoke of the need for Indians to individually "enter" modernity as

well, through their adoption of a new imaginary, as citizens with a developmentalist mindset.

Chakrabarty references a well-known story, in which Nehru admonishes the manager of a dam

building project for not explaining to the laborers the purpose of their work:

> I asked the engineer, "Did you explain to them the reasons for what they were doing?"
> He said, No." I said, "Then you have not understood your work at all. Your work is to
> explain to the ordinary worker what he is doing in the scheme." (Nehru 1958, quoted
> from Chakrabarty 2018).

For Nehru, sacred discourses served only to enhance the promise of industrialized, rational

planning, in order to facilitate society's leap from colony to nation-state, from pre-modern to

modern, from religious to secular, to bridge the rupture point. Science and industrialization were

in effect the tools through which India initiated *kairos*, a revolutionary moment, in this case

Independence, that shifts the flow of everyday, *chronotic* time. But this modernist mindset

needed to be adopted psychologically by all citizens, not just State actors. Nehru used sacred

language for purely secular aims, to inspire "faith in the project of modernisation and faith in

trusting it to the people of the nation. All the talk about dams and laboratories being 'temples'

was about creating a secular religion of modernisation" (Chakrabarty 2018, 277). And bringing

modernity to India in the form of industrial technologies was for Nehru a true moment of *kairos*,

a "disruptive, utopian, revolutionary transformation of both spirit and matter" (ibid 278). Nehru's

nationalist imaginary is closely in line with Anderson's and Wolin's notions of political

imaginary, to consider the nation as "a conceptual problem, a problem of thought" (Chakrabarty

2000, 177).   Modi's sacred imaginary here comes into sharp contrast to Nehru's.

But Nehru's historicist treatment of the "sacred" as mere rhetoric that could serve to

motivate India to modernize betrays a temporal imaginary incapable of encompassing fully the

multifaceted nature of climate change. Therefore, the second concluding point I make here is

that alternative imaginaries of political time, those that treat the relationship between sacred and

secular epistemologies as complementary rather than conflictual, are necessary for any effort to

acknowledge a non-statist heterotemporality of climate change.

One potential example is articulated by Chakrabarty, who compares the kind of

nationalist imaginary articulated by Benedict Anderson to that conceived of by Rabindranath

Tagore, an influential Indian poet, philosopher, and independence advocate in the late 19th and

early 20th c. Both Anderson and Tagore agree that imaginations make powerful interventions in

the "real" world. However, they diverge greatly when it comes to the question of the basis of the

imagination itself.   Chakrabarty argues that Anderson's "imagination" follows in the western

genealogy of the concept of designating "a relationship between an observing mind and its

surrounding objects" (2000, 174). In contrast, Tagore's works express an understanding of the

concept manifested not by a subject but in practice, what Chakrabarty refers to as *darshan,* or

divyadrishti (Bengali: "divine sight") (ibid 175-179). As a form of practice, this concept of

imagination "bypasses...the subject-object distinction" that is at the center of efforts that

hierarchize societies in terms of time (ibid 175).

A major critique leveled at Modi's response to the Assamese student's question was his

integration of religious and scientific worldviews. According to one critic, after his initial

response, Modi

> then spent the next six minutes expounding Indian cultural values on the environment and
> invoking Hindu scripture, before ending with a surreal reference to threading a needle by
> moonlight. [...] Why give patronizing guff when an intelligent person asks a serious
> question[…] Why then leave science out - the starting point surely for any response on
> climate change? (Mehra 2014)

Together, these critiques speak to significant unease with sacred and religious discourses being

treated as equally valid for framing the temporalities of climate threats. Rather, a scientific

temporality based on modeling the respective likelihoods of various future scenarios should

come first. In effect, they deny that the temporal framings of scientific and religious discourses

can co-exist with each other.   Such critiques are based on Enlightenment values of legitimizing

secular and scientific temporalities as "now" over those considered sacred, irrational, and thus

"past."

The fact that Modi's religious worldview is wedded completely to an ethno-nationalist

political ideology of *Hindutva,* is one that cannot be ignored. Even Chakrabarty argues that

Modi's mirroring of the "spiritual, ethical, and idealist side of the development discourse rings

hollow today" (2018, 278). Modi's vision of India as a guide to the world, a *Vishwaguru,*

conflates nationalist and sacred subjectivities in ways that conceal the very real exclusions of

Muslims, *dalits*, and others that animate *Hindutva* ideology. And certainly his government's environmental record (ongoing mass deforestations, intensifying urban smog, and water pollution) deserves severe criticism (The Wire 2017, 2018). But I do not believe this means that nothing can be gained from Modi's discursive imaginary.

An important first step to transcending the pitfalls of the state-wedded imaginary would be to treat "irrational" religious worldviews as sharing the same time as modern political and scientific worldviews. Recalling Fabian and Chakrabarty, western epistemologies have traditionally denied temporal parity with epistemologies considered non-western, pre-modern, and irrational. But treating these worldviews as part of the patchwork of temporalities constituting "now" would allow for the transcending of the modernist concepts of time that depend on a distinct separation between humanity and nature. If being modern involves a strong distinction between monolithic concepts of natural and social time, a distinction that is no longer tenable in the face of rapid, anthropogenic climate change, then interventions that challenge this worldview are vital.

By using sacred language appropriated by *Hindutva* ideology, Modi extends India beyond the temporalities of its existence as a nation-state. While this is ultimately an exercise that strengthens India-as-nation-state by referencing and synchronizing multiple narratives, the religious-nationalist imaginary nonetheless represents an effort to provincialize Europe (Chakrabarty 2000). In this way, *Hindutva* climate politics asserts a limited, but decidedly non-western, sacred imaginary that speaks to both religious and secular communities, Indian and non-Indian, from outside the Enlightenment's epistemological anchors. Sacred imaginaries of political time and of the environment can serve to transcend the synchronicity of the nation-state, which haunts attempts to conceive of novel tempos and timelines invoked by climate change.

Returning to the question of whether institutions can operationalize a heterotemporal orientation without historicizing between sacred and secular epistemologies, between modern and non-modern, many would cite the danger of powerful religious and sacred language being used for narrow political purposes, as is the case with Modi's *Hindutva* ideology. But I disagree with the idea that sacred or religious discourses have no place in setting the parameters for a polity to envision multiple temporalities of climate change. Modi's personifications of Mother Nature, his envisioning of a more harmonious and personal relationship with one's immediate environment, "taks us well beyond the facts that the science of climate change has laid bare" (Lal 2015, 392). The acknowledgement of multiple political temporalities, of a patchwork of narratives and imaginaries, leads directly to considering how normative interventions can be made, especially by institutions.

I argued in chapter 5 that Pope Francis's treatment of climate change in *Laudato Si'* offers one potential way for treating secular and sacred concerns as co-existing with each other without one dominating the other. Another example is Latour's "Parliament of Things," an exploration of what an institutionalization of human and non-human agents and decision-making could take place provides one example. (Latour 1993). Just prior to the 2015 Paris COP, a group of students and artists practiced such a model:

> The new format, bringing the orthodox, sovereign State Parties of the United Nations climate negotiations into direct talks with non-State delegations (such as Forests, Cities, Sahara and Oceans), made for extremely complex negotiations but also a highly valuable and innovative blueprint for future multilateral talks. (artcop21.com, June 2015)

The co-evalness of human and non-human demonstrated by this Parliament echoes Modi's co-evalness of the sacred and secular. This group successfully reached a deal, despite the very different temporalities of climate change experienced by each of these agents. One could

imagine how sacred epistemologies could be represented in such a Parliament, each with their own temporalities and orientations to existing institutions like the nation-state.

It seems clear that any institutionalization of heterotemporality, the treatment of alternative times and temporalities as legitimate narratives of the present, would require a kind of consensus that is both enduring, and agonistic. By this I mean a framework which all relevant actors agree is committed to a heterotemporal orientation, but at the same time recognizes any consensus reached as only a partial and temporary alliance of interests and narratives.

But the ultimate aim is to "find a form of social thought that embraces analytical reason in pursuit of social justice but does not allow it to erase the question of heterotemporality from the history of the modern subject" (Chakrabarty 2000, 239). Notably, this does not mean simply integrating more representations of the present in order to supplement the hegemonic imagination, towards the goal of creating a fuller vision of "now." Rather, Chakrabarty gestures towards the importance of treating sacred and secular ways of imagining the nature of political time as coeval with other times, resisting the historicist impulse to anachronize living practices of tradition and the sacred. A heterotemporal orientation allows us to gain a fuller vision of the present and the nature of politics and so is useful for actors engaged in or theorizing climate politics. India's diachronic imaginary of climate change is severely limited by the nationalist, modernist, subjectivity it inhabits. Engaging with the "sacred" can help to transcend these limitations in our political imaginary of climate change and treat transnational issues like common, not globalized, phenomena.

Primary References

Agarwal, Anil and Sunita Narain. (1991) *Global Warming in an Unequal World: A Case of Environmental Colonialism.* Centre for Science and the Environment.

Centre for Climate Change Research. (2017) "Climate Change Over India."

Centre for Science and Environment. (1982) *The State of India's Environment: A Citizens' Report*.

Food and Agriculture Organization. (2016) "The State of Food and Agriculture: Climate Change, Agriculture, and Food Security."

Francis I. (2015) *Laudato si'*.

Gandhi, Indira. (1972) "Speech to UN Conference on the Human Environment (UNCHE)."

Government of India. (1991) "Non-paper: Draft Framework Convention on Climate Change." Intergovernmental Negotiating Committee, Third Session.

Indian Network for Climate Change Assessment. (2009) "Climate Change & India: A 4x4 Assessment." Ministry of Environment and Forests.

Intergovernmental Panel on Climate Change. (2014). *Fifth assessment.*

------. (2007). *Fourth assessment.*

------. (2001). *Third assessment.*

------. (1995). *Second assessment.*

------. (1990a). *First assessment.*

------. (1990b). *Special report on developing country participation.*

Ministry of Environment and Forests. (1990a) "1992 Conference on Environment and Development." Conference of Select Developing Countries on Global Environmental Issues.

Ministry of Environment and Forests, India. (1990b) "Green House Effect and Climate Change
    – Issues of the Developing Countries." Conference of Select Developing Countries on
    Global Environmental Issues.

Ministry of the Environment and Forests, India. (1990c) "Technology Transfer and Funding
    Mechanisms." Conference of Select Developing Countries on Global Environmental
    Issues.

Ministry of the Environment and Forests, India. (2004) "First National Communication to the
    UNFCCC."

Ministry of the Environment and Forests, India. (2012) "Second National Communication to
    the UNFCCC."

Ministry of the Environment and Forests, India. (2015) "Intended Nationally Determined
    Contributions."

Ministry of New and Renewable Energy, India. (2015) "Working Paper on International Solar
    Alliance."

Modi, Narendra. (2014) "Statement to the UN General Assembly."

-----.   (2015a) *Convenient Action.* London: LexisNexis.

-----.   (2015b) "Inaugural Address." Annual Conference of State Environment and
    Forest Ministers.

-----.   (2015c) "Opening Address." *Samvad* Conference: Global Hindu-Buddhist
    Initiative on Conflict Avoidance and Environment Conscousness.

-----.   (2016) "Knowledge is Immortal and is Relevant in Every Era." *Kumbh Mela*.

-----.   (2018) "Opening Address." International Solar Alliance.

Prime Minister's Council on Climate Change. (2008) "National Action Plan on Climate

Change."

United Nations Framework Convention on Climate Change (2015) Conference of the Parties.

-----. (2011). Conference of the Parties.

-----. (2010). Conference of the Parties.

-----. (2009). Conference of the Parties.

World Bank. (2013) "Annual Report: End Extreme Poverty, Promote Shared Prosperity."

World Bank. (2014) "Global Monitoring Report: Ending Poverty and Sharing Prosperity."

World Resources Institute. (1990). "World Resources: 1990-91."

Secondary References

Adger, W. Neil, Tor A. Benjaminsen, Katrina Brown, Hanne Svarstad. (2001) "Advancing a

    Political Ecology of Global Environmental Discourses." *Development & Change*. 32.4:

    681-715.

Agamben, Giorgio. (1998) *Homo Sacer: Sovereign Power and Bare Life.* Los Angeles: Stanford

    University Press.

Agarwal, A. and S. Narain. (1991) Global warming in an unequal world: a case of

    environmental colonialism. *Centre for Science & Environment.*

Agathangelou, Anna M. & L.H.M. Ling. 2009. *Transforming World Politics: From Empire to*

    Multiple Worlds. New York: Routledge.

Agnew, John. (1994) "The Territorial Trap: the Geographical Assumptions of   International

    Relations Theory." 1.1: 53-80.

Alam, G.M.M., Khorshed Alam, and Shahbaz Mushtaq (2017) "Climate Change

Perceptions and Local Adaptation Strategies of Hazard-Prone Rural Households in

Bangladesh." *Climate Risk Management.* 17: 52-63.

Anderson, Benedict. (1983) *Imagined Communities.* New York: Verso.

Anievas, Alexander, Nivi Manchanda, and Robbie Shilliam. (2014). *Race and Racism in IR:*

Confronting the Global Colour Line. New York: Routledge.

Appadurai, Arjun. (1996) *Modernity at Large; Cultural Dimensions of Globalization.* MN:

University of Minnesota Press.

Asad, Talal. (2003) *Formations of the Secular: Christianity, Islam, Modernity.* Stanford, CA:

Stanford University Press.

Ashley, Richard. (1988) "Untying the Sovereign State: A Double Reading of the Anarchy

Problematique." *Millennium Journal of International Studies.* 17.2: 227-262.

Ayoob, Mahmood. (1995) *The Third World Security Predicament: State Making, Regional*

Conflict, and the International System. New York: Lynne Rienner Publishers.

Banerjee, B. and G. Collins. (2010). Anatomy of IPCC's mistake on Himalayan glaciers

and year 2035. *Yale Climate Connections.*

Beck, Ulrich. (1992). *Risk Society.* New York: Sage.

Bell, Duncan. (2013). "Race and International Relations." *Cambridge Review of*

International Affairs. 1: 1-4.

Benjamin, Walter. (1955[1968]) *On the Concept of History.* New York: Polity.

Bhabha, H. (1984) Of Mimicry and Man: the Ambivalence of Colonial Discourse.

Discipleship, 28, 125-133.

Biermann, F. (2000) Science as power in international environmental negotiations: global

environmental assessments between north and south. *Belfer Center for Science and International Affairs.*

-----. (2002). Institutions for scientific advice: global environmental assessments and their influence in developing countries. *Global Governance, 8, 195-219.*

Brunnee, Jutta and Charlotte Streck. (2013) "The UNFCCC as a Negotiation Forum: Towards Common But More Differentiated Responsibilites."13.5: 589-607.

Cavanaugh, William T. (2009) *The Myth of Religious Violence: Secular Idology and the Roots of Modern Conflict.* New York: OUP.

Chandler, M. (2018) "The Educational Global Climate Model." In *Our Warming Planet: Topics in Climate Dynamics. Henry Lacis and D. Manley.* 411-428.

Chakrabarty, Dipesh. (2018) "Planetary Crises and the Difficulty of Being Modern." *Millennium Journal of International Studies.* 46.3: 259-282.

-----. 2000. *Provincializing Europe: Postcolonial Thought and Historical Difference.* New York: PUP.

Chapple, Christopher Key. (1998) "Toward an Indigenous Indian Environmentalism." in *Purifying the Earthly Body of God: Religion and Ecology in Hindu India.* Albany: SUNY Press.

Chaturvedi, Sanjay and Timothy Doyle. (2015) *Climate Terror: A Critical Geopolitics of Climate Change.* New York: Palgrave.

Ciplet, David. (2015) "Rethinking Cooperation: Inequality and Consent in International Climate Change Politics." *Global Review of Multilateralism and International Organizations.* 21.2: 247-274.

Dash, S. et al. (2017). Climate Modelling in India: Present Status and the Way Forward.

American Meteorological Association.

Derrida, Jacques. (2003) *Rogues: Two Essays on Reason.* New York: Stanford University Press.

Doninger, Wendy. (2009) *The Hindus: An Alternative History.* New York: Penguin.

Dubash, Navroz ed. (2012) *Handbook of Climate Change and India: Development, Politics, and Government.* New York: Routledge.

Dosdad, Angela. (2016) "From the Secular to the Habermasian Post-Secular and the Forgotten Dimension of Time in Rethinking Religion and Politics." *Contexto.* 38.3:887-908.

Edwards, P. (2001) Changing the Atmosphere: Expert Knowledge and Environmental governance. Boston: MIT Press.

Elzinga, A. (1993) Science as the Continuation of Politics by Other Means. *Controversial Science: From Content to Contention,* Albany: SUNY Press.

Fabian, J. (1983) Time and the Other: How Anthropology Makes Its Object. New York: Columbia University Press.

Fairclough, Norman. (2003) *Analysing Discourse: Textual Analysis for Social Research.* New York: Sage.

Falkner, Robert. (2016) "The Paris Agreement and the New Logic of International Climate Politics." *International Affairs.* 92.5.

Fanon, Frantz. 2005. *The Wretched of the Earth.* Grove Press: New York.

Foucault, Michel. 1980. *Language, Counter-Memory, Practice.* Ithaca: Cornell University Press.

Frigg, Roman, Erica Thompson, and Charlotte Werndl. (2015) "Philosophy of Climate Science Part II: Modelling Climate Change." *Philosophy Compass 10.12.*

Friman, M. (2008) Historical Responsibility in the UNFCCC. *Centre for Climate*

Science and Policy Research.

Gadgil, Madhav and V.D. Vartak. (1976) "The Sacred Groves of Western Ghats in India."

Economic Botany. 30.2: 152-160.

Ghosh, Amitva. (2016). *The Great Derangement: Climate Change and the Unthinkable.*

Chicago: University of Chicago Press.

Grubb, Michael. (2005) "Climate Change Impacts, Energy, Devleopment." *Nature.* 358: 448-

461.

Guha, Ranajit. (1983) *Elementary Aspects of Peasant Insurgency in Colonial India.* Chapel Hill:

Duke University Press.

------. (2008) "A Colonial City and Its Time(s)." *The Indian Economic and Social History*

Review. 45.3: 329-351.

Gupta, Joydeep & Tirthankar Mandal. (January 2015) "Hot Air: Climate Negotiations and

India." *India Climate Dialogue.*

Hajer, Maarten A. (1995) *The Politics of Environmental Discourse.* New York: Clarendon

Press.

Hall, Ian. (2017) "Narendra Modi and India's Normative Power." *International Affairs.* 93.1:

113-131.

Harvey, David. (1990) "Between Space and Time: Reflections on the Geographical

Imagination." Annals of the Association of American Geographers.   90.3: 418-434.

Hegel. G.W.F. (1837[1962]) *Philosophy of History.*

Hindustan Times. (September 29, 2017) "Rohingya Muslims Should Be Treated as Intruders,

Not Refugees, says Yogi."

Held, David and Anthony McGrew. (2007) *Globalization/Anti-Globalization: Beyond the Great Divide.* New York: Polity.

Hindess, Barry. (2007) "Locke's State of Nature." *History of the Human Sciences.* 20.3: 1-20.

Hobson, John M. (2012) *The Eurocentric Conception of World Politics: Western International Theory, 1760– 2010.* Cambridge: Cambridge University Press.

Hobson, John M. and George Lawson (2008) "What is History in International Relations?" Millennium Journal of International Studies. 37.2: 415-435.

Holmqvist, Caroline and Tom Lundborg. (2016) "How Time Shapes Our Understanding of Global Politics." e-International Relations.

Hom, Andrew, Christopher McIntosh, Alasdair McKay, & Liam Stockdale eds. (2016) *Time, Temporality, and Global Politics.* Bristol: E-IR Publishing.

Hoy, David Couzens. (2012) *The Time of Our Lives: A Critical History of Temporality.* Boston: MIT Press.

Hulme, M. (2016). Weathered: Cultures of climate. *SAGE.*

Hulme, M. and S. Dessai. (2015) Negotiating future climates for public policy: a critical assessment of the development of climate scenarios for the UK. *Environmental Science & Policy, 11, 54-70.*

Hutchings, Kimberly. (2008) *Time and World Politics: Thinking the Present.* Manchester: Manchester University Press.

Inayatullah, Naeem and David Blaney. (2004) *International Relations and the Problem of Difference.* London: Routledge.

Isaksen, Kari-Anne and Kristian Stokke. (2014) "Changing Climate Discourse and Politics in

India. Climate Change as Challenge and Opportunity for Diplomacy and Development."
Geoforum. 57: 110-119.

Jasanoff, S. (2004) States of Knowledge: the Co-Production of Science and Social Order.
Routledge.

Joshi, Shangrila. (2013) "Understanding India's Representations of North-South Climate
Politics." *Global Environmental Politics.* 13.2.

Kandlikar, M. and A. Sagar. (1997) Climate Change Science and Policy: Lessons from
India. Interim report. *International Institute for Applied Systems Analysis, 97, 1- 25.*

Kant, Immanuel. (1796[1939]) *Perpetual Peace: A Philosophical Proposal.* London: Peace
Book Company.

Kiersey, Nicholas J. & Doug Stokes. (2011) *Foucault and International Relations: New
Critical Engagements.* New York: Routledge.

Klinke, Ian. (2013) "Chronopolitics: A Conceptual Matrix." *Progress in Human Geography.*
37.5: 673-690.

Latour, Bruno. (2017) *Facing Gaia: Eight Lectures on the New Climatic Regime.* New York:
Polity.

-----. (2014) "Agency at the Time of the Anthropocene." *New Literary History.* 45:1. 1-
18.

-----. (2010) *On the Modern Cult of the Factish Gods.* Chapel Hill: Duke University Press.

-----. (1993) *We Have Never Been Modern.* New York: Harvester Wheatsheaf.

Lewis, Simon L. & Mark A. Maslin. (2015) "Defining the Anthropocene." *Nature.* 519: 171-
180.

Ling, L.H.M. (2014) *Imagining World Politics: Sihar & Shenya, A Fable For Our Times.* New

York: Routledge.

-----.   (2002) *Postcolonial International Relations: Conquest and Desire Between Asia and the West.*   New York: Palgrave Macmillan.

Massumi, Brian. (2007) "Potential Politics and the Primacy of Premption." *Theory and Event.* 10.2: 122-135.

Mackay, Joseph and Christopher David LaRoche. (2017) "History in International Relations: Rethinking Philosophy of History in IR Theory." International Theory. 9.2: 203-236.

Mahony, M. (2014) The Predictive State: Science, Territory and the Future of Indian Climate Science. *Social Studies of Science.* 44, 109-133.

Markley, Robert. (2012) "Time: Time, History, and Sustainability." *Telemorphosis: Theory in the Era of Climate Change, Vol. 1.* Ann Arbor: Michigan Publishing.

Mawdsley, Emma. (2005) "The Abuse of Religion and Ecology: the Visha Hindu Parishad and Tehri Dam." Worldviews: Global Relgions, Culture, and Ecology. 9.1.

Miller, Clark. (2004) "Climate Science and the Making of a Global Political Order." *States of Knowledge: the Co-Production of Science and the Social Order.* New York: SAGE.

Mitter, Rana. 2003. "An Uneasy Engagement: Chinese Ideas of Global Order and Justice in Historical Perspective" in *Order and Justice in International Relations.* Ed. Foot, Johnson. New York: Sage.

Morton, Timothy. (2013) *Hyperobjects: Philosophy and Ecology After the End of the World.* Minneapolis: University of Minnesota Press.

Muppidi, Himadeep. (2004) *The Politics of the Global.* New York: U. Univ of Minnesota Press.

-----.   (2012) *Colonial Signs of International Relations.* New York: Oxford.

Najam, Adil. (2005) "Developing Countries and Global Environmental Governance: From

Contestation to Participation to Engagement." *International Environmental Agreements: Politics, Law and Economics. 5.3: 303-321.*

Nandy, Ashis. (1988) *The Intimate Enemy: Loss and Recovery of Self Under Colonialism.* Oxford: Oxford Univ. Press.

-----. (1994) "History's Forgotten Doubles." *History and Theory.* 34:2. 44-66.

Narayanan, K. and Santosh K. Sahu. (2014) "Energy Consumption Response to Climate Change: Policy Options for India." *Izhikode Society and Management Review.* 2.3: 123-133.

Nongbri, Brent. (2013) *Before Religion: A History of a Modern Concept.* New Haven: YUP.

Notermans, Catrien. (2016) "The Changing Landscape of Sacred Groves in Kerala (India): A Critical View on the Role of Religion in Nature Conservation." *Religions.* 7.4: 38-52.

Oreskes, N., K. Shrader-Frechette, K. Belitz. (1994). Verification, validation, and confirmation of numerical models in the earth sciences. *Science, 263, 641-646.*

Pettenger, Mary (2004) *The Social Construction of Climate Change: Power, Knowledge, Norms and Discourses.* Burlington, VT: Ashgate.

Prakash, Gyan. (1999) *Another Reason: Science and the Imagination of Modern India.* Princeton: Princeton University Press.

Prashad, Vijay. (2002) *Fighting Against the Planet.* Mumbai: Manohar Publishing.

Prashad, Vijay. (2012) *Poorer Nations: A Possible History of the Global South.* New York: Verso.

Raghunandan, D. (2012) India's Climate Policy: Squaring the Circle. *IDS Bulletin, 43, 122–129.*

Rajan, M.G. (1997) *Global Environmental Politics: India and the North-South Politics of Global Environmental Issues.* Oxford: Oxford University Press.

Ramesh, K.V. (2014) "Assessing Reliability of Regional Climate Projections: the Case of Indian Monsoon." *Scientific Reports.* 103: 14451-14510.

Roy, Arundathi. 2014. *Capitalism: A Ghost Story.* Haymarket Books: Chicago.

Roy, Dunu. (2018) "In Modi's India, the Real Champions of the Earth are Fighting for their

      Space." Thewire.in

Said, Edward W. (1982) *Orientalism.* New York: Vintage.

Saryal, Rajnish. (2018) "Climate Change Policy of India: Modifying the Environment."   *South

      Asia Research.* 38.1: 1-19.

Senapati, M.R., Behera, B., Mishra, S.R. (2013) "Impact of Climate Change on Indian

      Agriculture and Its Mitigating Priorities." *American Journal of Environmental

      Protection.* 1.4: 109-111.

Seth, Sanjay. 2011. "Postcolonial Theory and the Critique of International Relations."

      Millennium – Journal of International Studies. 40.1: 167-183.

Sethi, Manpreet. (2014) "The Indo-Canadian Nuclear Relationship: Possibilities and

      Challenges." *Canada's Journal of Global Policy Analysis.* 69.1: 35-47.

Shah, Jigar. (2013) *Creating Climate Wealth: Unlocking the Impact Economy.* New Delhi:

      ICOSA.

Spivak, Gayatri. (1999) *A Critique of Postcolonial Reason.*   Cambridge, MA: HUP.

Stockdale, L.P.D. (2015) *Taming an Uncertain Future: Temporality, Sovereignty, and the Politics

      of Anticipatory Governance*. New York: Rowman & Littlefield.

Strong, Maurice. (2000) *Where on Earth Are We Going?* New York: Knopf.

Swyngedouw, Erik.   (2010) "Apocalypse Forever? Post-political Populism and the Spectre of

      Climate Change." *Theory, Culture, and Society.* 27.2-3: 213-232.

-----.   2014. "Apocalypse Now! Fear and Doomsday Pleasures." *Capitalism, Nature,

      Socialism.* 24:1. 9-18.

Tickner, J. Ann. (2014) "Reading Hobson Through Feminist Lenses." *Millennium Journal of International Studies.* 42.2: 472-479.

Vasilaki, Rosa. (2012) "Provincialising IR? Deadlocks and Prospects in Post-Western IR Theory." *Millennium Journal of International Studies.* 41.1: 3-22.

Veldman, Robin Globus and Randolph Haluza-DeLay. (2016) *How the World's Religions are Responding to Climate Change.* New York: Routledge.

Walker, R.B.J. (2009) *After the Globe, Before the World*. New York: Routledge.

-----.   (1992) *Inside/Outside: International Relations as Political Theory.* New York: Cambridge University Press.

Werrell, Caitlin and Francesco Femia. (2017) "Epicenters of Climate and Security: The New Geostrategic Landscape of the Anthropocene." The Center for Climate and Security.

Wilson, Erin K. (2014) "Theorizing Religion as Politics in Postsecular International Relations." *Politics, Religion, and Ideology.* 3: 347-365.

Wolin, Sheldon. 1960[2004]. *Politics and Vision: Continuity and Innovation in Western Political Thought.* New York: PUP.

Yusoff, Kathryn. (2013) "Geologic Life: Prehistory, Climate, Futures in the Anthropocene." *Environment and Planning: Society and Space.* 31: 779-795.